

# The Impact of Wearing High Heels on Women's Health and Attractiveness: A Field Study

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## ABSTRACT

The research explores relationship between women's health ,attractiveness and wearing high heels(one of women's accessories) and aims to know the Impact of wearing high heels on women's health and attractiveness . In fact: a lot of women prefer wearing high heels for some reasons although there are some bad results.

One of these reasons:, they believe that high heels increase their tall and attractiveness, additional to some women thinks that the high heel gives their truest.

The field study used about 200 of business women & employees and university students (girls) and divided them into two main groups.

❖ First group: for business women and employees.

❖ Second group: for university students.

Finally, the researcher used Experimental scientific method and the results of the field study were the following: 68% of the business women prefer wearing high heels because they believe that it suitable for the business and it gives them more tall , more trust and more attractiveness.

52% of the workers women prefer wearing high heels because they think that it gives them taller and more attractive.

66% of university girls prefer wearing flat or sports shoes because they believed that it comfortable and practical while 33% of them prefer wearing high heels shoes because they believe that it makes them attractive, But, 88% of the all [women , employees ,university students] prefer wearing high heels in the special occasion.

Finally, the researcher recommends worthwhile to study the impact of some elements and design on health and attractiveness of women.

**KEYWORDS:** High heels - women's healthy and attractiveness - fashion design - accessories – backbones.

## I. INTRODUCTION AND RESEARCH PROBLEM

In all time, the shoe is considered important accessories for both women and men-in general- but a high-heels shoe very important especially for women, due (mostly) Palace taller women compared to men.

In fact, women and men have resorted since ancient times to increase their height by using different methods such as shoes' high heels.

Women who have high desired of equity with men, especially in tall, are intended to wear high heels despite its negative consequences.

In general women do not dispense with the using of the shoes and a high-heeled shoe in particular, this is due (mostly) to short women compared to men and a lot of women think the high heels increase their attractiveness.

Varies high heel shoe according to the fashion lines might fall or rise or be moderate for both men and women, but women wearing high heels which rise up to 15 cm, giving it a virtual attraction, where many women believe that wearing high heels increases the length and intake can visual thrills virtual or in the body of the female form.

However, what you may not be aware of women's problems that may occur, especially in her spine for wearing high heels for long periods.

### I.1 Research aim:

The study aims to find out:-

- 1.Studying of the impact of wearing high heels on the change of women's body.
- 2.Knowledge of the attitude of women and girls towards using high heels on the various occasions.
- 3.The relationship between age or jobs and wearing high heels.
- 4.The relationship between attractiveness and wearing high heels.
- 5.The relationship between the health of women's body and wearing high heels.

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**I.2 Research importance**

This research may add new dimension to Arabic researches that focus on the importance of women's accessories like high heels. Furthermore, the researcher reflects that wearing high heels might have its impacts on woman's health and attractiveness according to height of heels and even through history of wearing such accessories.

This research may evolve researchers interesting in studying the relationship between accessories and its impact on the woman's health and attractiveness.

**I.3 Research limits:**

**Place limits:** Universities, Companies, institutions and schools.

**Subject limits:** workers women and business ladies

**I.4 Research group:**

The search used 200 of women [business women, employees, university student's girls]. The researcher divided the sample into two groups.

❖ The first group:- 100 women contents two classes such as:-

A: 25 businesses women.

B: 75 worker women

❖ The second group: 100 university students (girls).

**I.5 Research materials and tools:**

1- High heels shoes in different styles and height.

2- Questionnaire.

**I.6 Research hypotheses:**

There are statistical significant differences between average scores for two groups.

**I.7 Research Methodology:**

Analytical Descriptive

**II. The theoretical framework**

**II.1 History**

A heel is the projection at the back of a shoe which rests below the heel bone. The shoe heel is used to improve the balance of the shoe, increase the height of the wearer, and alter posture or other decorative purposes. Sometimes raised, the high heel is common to a form of shoe often worn by women, but sometimes by men too.



Most of the lower class in ancient Egypt walked barefoot, but figures on murals dating from 3500 B.C. depict an early version of shoes worn mostly by the higher classes.

These were leather pieces held together with lacing that was often arranged to look like the symbol of "Ankh," which represents life.

**Fig. 1(Amen's 17th Century Persian shoe, covered in shagreen-horse-hide with pressed mustard seeds)**

However, there are also some depictions of both upper-class males and females wearing heels, probably for ceremonial purposes.

Egyptian butchers also wore heels, to help them walk above the blood of dead beasts. In ancient Greece and Rome, platform sandals called kothorni, later known as buskins in the Renaissance, were shoes with high wood or cork soles that were popular particularly among actors who would wear shoes of different heights to indicate varying social status or importance of characters. Chopines, or platform shoes, were created in Turkey in the 1400s, and were popular. **Wilson [1].**

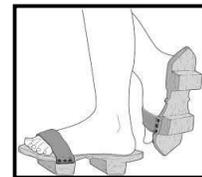


**Fig. 2 (Woman's shoe with a Louis heel, Los Angeles County Museum of Art)**

**II.2 throughout Europe until the mid-1600s**

During the Middle Ages, both men and women would wear pattens, or wooden soles, that were clearly a precursor the high heel. As shown in fig 3

Pattens would attach to fragile and expensive shoes to keep them out of the mud and other street "debris" when walking outdoors **Swann [2].** In the 1400s, chopines, or platform shoes, were created in Turkey and were popular throughout Europe until the mid-1600s. Chopines could be seven to eight or even 30 inches high, requiring women to use canes or servants to help them walk.



**fig. 3pattens**

Like patterns, chopines were overshoes, but unlike the patterns, chopines were worn almost exclusively by women. **Rexford[3]** They were usually designed with cork or wood stacked as the heel., Indeed, Chinese

concubines and Turkish odalisques wore high shoes, prompting scholars to speculate if heels were used not only for aesthetic reasons but also to prevent women from escaping the harem **Kunzle**[4] .

Shoes were beginning to be made in two pieces during the 1500s, with a flexible upper attached to a heavier, stiffer sole [2]. This new two-part shoe led to the heel as an actual part of the shoe rather than just an attachable overshoe. Heels grew in popularity during the 1500s to keep riders, both male and female, from slipping from the stirrups. The “rider’s heel” was initially 1 to 1-½ inches high and resembled the modern riding boot and cowboy boot. The simple riding heel soon gave way to more stylized heels that were higher and thinner in the mid-1500s after Catherine de Medici made them more fashionable than functional. The introduction of the high heel and the concomitant difficulty of making mirror image lasts (a foot mold used to make shoes) led shoemakers to create “straight shoes” or shoes that could fit either the left or right foot **Mitchell** [5]. Right and left shoes would eventually return in the early 1800s when high heels were abandoned [2].

#### II.4 Formal Invention of High Heels as Fashion

The formal invention of high heels as fashion is typically attributed to the rather short-statured Catherine de Medici (1519-1589). By 1580, fashionable heels were popular for both sexes and a person who had authority or wealth was often referred to as “well-heeled.” In the early 1700s, France’s King Louis XIV decreed that only nobility could wear heels that were colored red and that no one’s heels could be higher than his own. In the early 1700s, France’s King Louis XIV (The Sun King) would often wear intricate heels decorated with miniature battle scenes, called “Louis heels,” they were often as tall as five inches. The king decreed that only nobility could wear heels that were colored red (les talons rouge) and that no one’s heels could be higher than his own. In addition, novelist Restif de Bretonne threw erotic emphasis on the finely arched foot and the delicately curved high heel [4].



Fig 4 (Louis XIV king of France by Hyacinth Rigaud, 1701)

Consequently, many women taped their feet to reduce their apparent size.

Like the corset, high heels sculpted the body to make it appear more aristocratic, pure, refined, and desirable.

The Massachusetts Colony even passed a law banning women from wearing high heels to ensnare a man or they would be tried as a witch **Murstein** [6].

It wouldn’t be until the mid-1800s when American would catch up to Europe shoe fashion.

#### II.5 Today’s Heel Revival

Women in the 21st century have more shoe choices than ever before. she can choose to wear what they want, even hybrid shoes such as “heeled” tennis shoes and flip flops What is certain is that heels have not disappeared.

Noted for its unique classes, Crunch, a nationwide gym, even offers a 45-minute “Stiletto Strength” classes that strengthen women’s legs and calves **Sherr** [7].

While these may be oddities of fashion, they gesture toward an exciting array of fashion choices women have today.



Fig. 5, flip flops

While high heels enjoyed widespread popularity in the late nineteenth century, early twentieth-century women demanded more comfortable, flat-soled shoes-- that is until the roaring twenties when higher hemlines encouraged visible, elaborate, high, slender Louis heels.

The Depression during the 1930s influenced Western shoe fashion as heels became lower and wider. **Turim** [8].

The revival of Western high fashion in the post-war 1950s was led by French designer Christian Dior and his collaboration with shoe designer Roger Vivier.

Together they developed a low-cut vamp (the portion of the shoe that covers the toe and instep) Louis shoe with a narrow heel called a stiletto, which is the Italian word for a small dagger with a slender, tapering blade **West** [9]. With the creation of the miniskirt in the early 1960s, stilettos were attached to boots that enhanced the look of bare legs. As the feminist movement gained momentum, however, stilettos went out of favor with the cry: “Liberate the captive foot of womanhood!”



Heels were seen as a comparable successor to foot binding and the tight-laced corset as perverse regulatory objects for molding the feminine.

Fig. 6 (High-heeled ladies shoe)

Consequently, heels dropped and thickened and soon low-heeled shoes with square toes replaced the stiletto **Gamman [10]**. Late 1960s disillusionment with contemporary life and anxiety about the future led young people throughout much of the West to embrace the hippie culture that revived the platform shoe.

**II.6 Types of heels found on high-heeled footwear include:**

Cone: a round heel that is broad where it meets the sole of the shoe and noticeably narrower at the point of contact with the ground.

Kitten: a short, slim heel with maximum height under 2 inches and diameter of no more than 0.4 inch at the point of contact with the ground.

Prism: three flat sides that form a triangle at the point of contact with the ground.

Puppy: thick square block heel approximately 2 inches in diameter and height.

Spool or Louis: broad where it meets the sole and at the point of contact with the ground; noticeably narrower at the midpoint between the two.

Stiletto: a tall, slim heel with minimum height of 2 inches and diameter of no more than 0.4 inch at the point of contact with the ground. **Kunzle [11]**

Wedge: occupies the entire space under the arch and heel portions of the foot.



**Fig. 7 (different types of high heels)**

**II.7 Health effects**

**II.7.1 Foot and tendon problems**

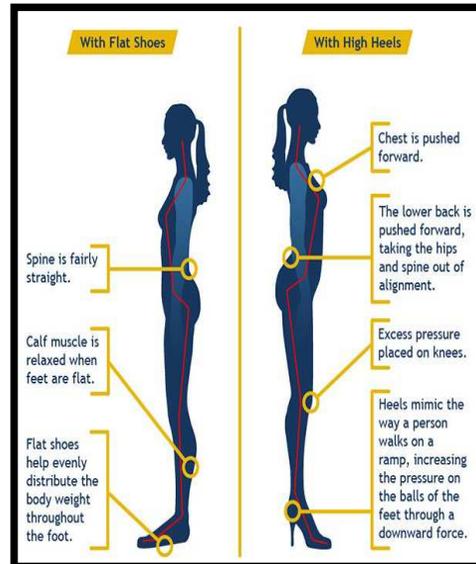
There are some problems had happened for the foot because of wearing high heel for long time where high-heeled shoes slant the foot forward and down while bending the toes up, The more that the feet are forced into this position, the more it may cause the gastrocnemius muscle (part of the calf muscle) to shorten, this may cause problems when the wearer chooses lower heels or flat-soled shoes.

When the foot slants forward, a much greater weight is transferred to the ball of the foot and the toes, increasing the likelihood of damage to the underlying soft tissue that supports the foot, In many shoes, style dictates function, either compressing the toes or forcing them together, possibly resulting in blisters, corns, hammer toes, bunions (hallux valgus), Morton's neuroma, plantar fasciitis and many other medical conditions, most of which are permanent and require surgery to alleviate the pain .

High heels – because they tip the foot forward – put pressure on the lower back by making the rump push outwards, crushing the lower back vertebrae and contracting the muscles of the lower back. **Narici [12]**

**Robinson [13]** told us about the case against wearing high heels is based almost exclusively on health and practicality reasons, including that they:

1. can cause foot and tendon pain;
  2. increase the likelihood of sprains and fractures;
  3. can create foot deformities, including hammer toes and bunions;
1. can render the wearer unable to run;
  2. can also agitate lower back pain;



**Fig. 8(The change of Body when wearing high heels)**

alter forces at the knee caused by walking in high heels so as to predispose the wearer to degenerative changes in the knee joint; Can result after frequent wearing in a higher incidence of degenerative joint disease of the knees, this is because they cause a decrease in the normal rotation of the foot, which puts more rotation stress on the knee.

**II.7.2 high heel and appearance**

The case for wearing high heels is based almost exclusively on aesthetic reasons, including that they:

- ❖ change the wearer's posture, requiring a more upright carriage and altering the gait in what is considered a seductive fashion;
- ❖ Make the wearer appear taller.
- ❖ Make the legs appear longer.
- ❖ Make the foot appear smaller.
- ❖ Make the toes appear shorter.
- ❖ Make the arches of the feet higher and better defined; According to a single line of research, they may improve the muscle tone of some women's pelvic floor, thus possibly reducing female incontinence, although these results have been disputed. Offer practical benefits for people of short stature in terms of improving access and using items, e.g. sit upright with feet on floor instead of suspended, reach items on shelves, etc.

**II.8 High Heel and Design**

**Brakeman [14]** tell us about the best design for a high heel is one with a narrower width, where the heel is closer to the front, more solidly under the ankle, where the toe box provides room enough for the toes, and where forward movement of the foot in the shoe is kept in check by material snug across the instep, rather than by the toes being rammed forward and jamming together in the toe box or crushed into the front of the toe box.

**II.9 High heel and fashion**

[4]In modern society, high-heeled shoes are a part of women's fashion. High-heels force the body to tilt, emphasizing the buttocks and breasts.

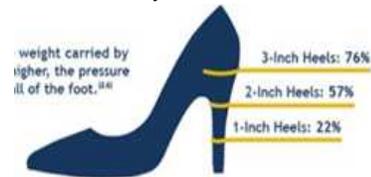
This desire to look sexy and erotic continues to drive women to wear high-heeled shoes, despite causing significant pain in the ball of the foot, as **Danesi [15]** said.

A survey conducted by the American Podiatric Medical Association showed some 42% of women admitted that they would wear a shoe they liked even if it gave them discomfort. **Gauguin's [16]** afield study has found that the appearance of women's apparel and high heels helps increase their attractiveness as rated by men.

**II.9 Deferent height of high heels**

There are many heights for heels such as the following:-

- ✚ 0-1.5 inches.
- ✚ Kitten heels (1.5 to 2 inches).
- ✚ High heels (2.5 to 4 inches)
- ✚ Extreme (over 4 inches).



**Fig.9 (different heights of heels)**

**Bruckner [17]**,said that there is relationship between body weight and foot problems, the pressure on the feet can cause foot problems and back pain

**III. The practical framework**

Questionnaire had been for monitor the opinions of the individuals from the target of a women category Design (200 women) for the following two groups:-

- ❖ The First group: workers (business=25 + employees=75) (100 women).
- ❖ The Second group: university students (100 women).

For recording their opinions where preferring wearing high heels.

A woman is interesting for accessories such as high heels and she takes care of the impact on their health and attractiveness. As had been divided to groups of three classes, contains all the one of them on group of statements and questions about the attention span of the women to high heels and impact on women's health and attractiveness.

Table No.1 questionnaire about effect of wearing high heels on women's health and attractiveness

CLASS	Evaluation			Elements	No.
	No	maybe	Yes		
Class1- Wearing				Are you preferred wearing high heels all time?	1
				Are you preferred wearing high heels just during working?	2
				Are you preferred wearing high heels in all special occasions?	3
Class2- Healthy				Has wearing high heel bad effect on your feet?	4
				Has wearing high heel bad effect on your knee?	5
				Has wearing high heel bad effect on your backbone?	6
Class3- Attractiveness				Are you preferred wearing high heel although it's bad impact?	7
				Has wearing high heel effect on your appearance?	8
				Has wearing high heel effect on your attractiveness?	9
Class 4- Tall ,trust				Are you find wearing high heel make you taller appearance?	10
				Are you find wearing high heel make you more a trusted?	11
				Are you find wearing high heel make you more attractive?	12

Yes = 3marks - maybe = 2 marks - No= 0 mark --- m ax. = 27 marks

Table No.2 group 1- business women (A).

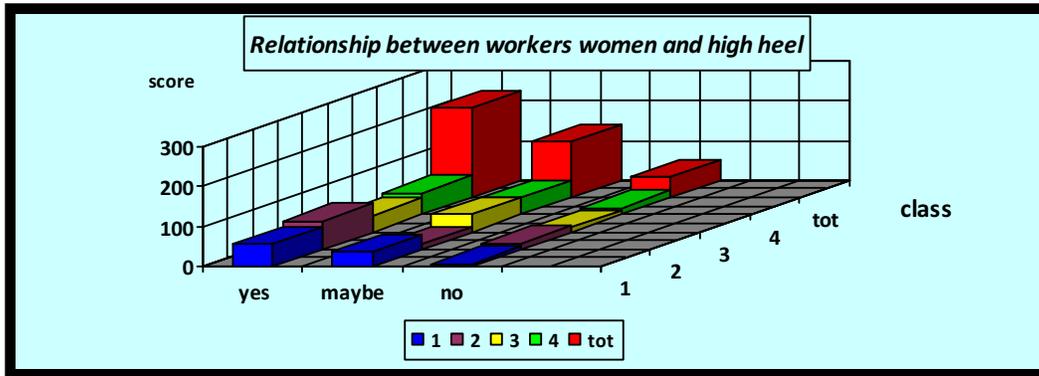
Class	No	Maybe	Yes
1	14	43	53
2	11	37	51
3	9	27	64
4	12	36	66
Tot	46	143	234

Graphic form no. (1) For Relationship between business women and high heel- group1-A



Table No.3 group1-B - workers women (B).

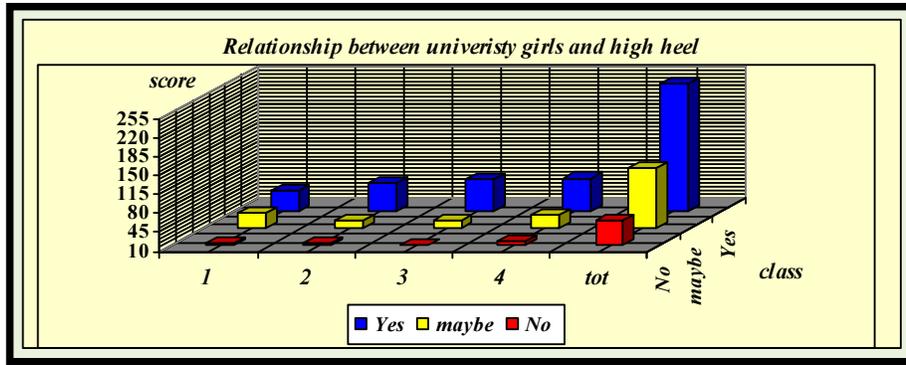
Class	No	maybe	Yes
1	6	38	56
2	15	14	71
3	13	45	42
4	17	44	55
Tot	51	141	224



Graphic form No. (2) For Relationship between worker women and high heel- group1-B

Table No.4 group2- university girls

Class	No	maybe	Yes
1	14	39	47
2	16	23	61
3	10	24	66
4	17	33	69
Tot	57	119	243



Graphic form No. (3) For Relationship between university girls and high heel- group 2

IV. RESULTS AND DISCUSSION

IV.1 card stability by using Alpha Kaaronbach standard:

we can account after applied it on 200 women, the result for the dimensions of the sheet is:  $(\text{group}1(\text{class}1) = 0.8767 - (\text{group}1(\text{class}2) = 0.9807 - (\text{group}2(\text{class}1) = 0.8979 - \text{sheet stability as all} = 0.9892 \dots)$ . We conclude that the results of the statistical sub-themes and themes as well as the total has steadily high and statistically significant at the 0.01 level of significance which indicates the stability of the card.

IV.2. F-test. (ANOVA)

Descriptives -Table. No.5

The deviation standard	Average	Class	Groups
1.8016	.7796	1	1-A
1.6784	1.1200	2	
1.1126	.5000	3	
1.7774	1.1320	4	
1.9735	.8896	1	1-B
2.0074	1.3300	2	
1.2137	.4400	3	
1.901	.4640	4	
1.1042	.3373	1	2
2.0029	1.2100	2	
1.1656	.5001	3	
1.1236	.4998	4	
4.8751	1.9800	1	TOT
5.6474	3.6600	2	
3.4083	1.4465	3	

Table No.6 unilateral variation between the three group's analyses- ANOV

The level of significance	The volume	Average of squares	Free degree	Sum of squares	Source of variation	Class
*.021	2.997	7.177	2.30	17.121	Between groups	1
		3.012	156	299.989	In groups	
*.023	2.368	9.230	2.30	16.548	Between class	2
		3.039	156	436.778	In groups	
.038	5.330	14.890	2.30	28.111	Between groups	3
		2.946	156	345.981	In groups	
*.029	2.330	9.320	2.22	15.621	Between groups	4
		3.039	156	436.778	In groups	
.045	4.549	77.866	2.30	135.988	Between groups	TOT
		21.969	156	2228.482	In groups	

#### IV.4 Achieve hypotheses

There are statistically significant differences at the level of significance 0.01 between the averages of the three groups on the first second and forth class of the card.

There are no statistically significant differences between the averages of the three groups on class 3 of the card and the total groups.

#### V.1 Recommendations

The researcher recommends worthwhile to study:-

1. The impact of some elements on health and attractiveness of women.
2. Encourage faculty members at universities and technical institutes on study the relationship between women's accessories, clothes, colors, appearance and health.

#### REFERENCES

- 1) Wilson, Nigel Guy. 2005. *Encyclopedia of Ancient Greece*. New York, New York: Routledge. Accessed: March 11, 2008. ISBN 13: 978-0-415-97334-2.
- 2) Swann, June. 1984. *Shoes*. London, England: Butler & Tanner Ltd.
- 3) Rexford, Nancy E. 2000. *Women's Shoes in America, 1795-1930*. Kent, Ohio: Kent State Univ. Pr. (November 24, 2000), ISBN-10: 0873386566 - ISBN-13: 978-0873386566.
- 4) Kunzle, David, 2004, *Fashion and Fetishism: Corsets, Tight-Lacing, and Other Forms of Body-Sculpting* thrupp, UK: Sutton Publishing Limited, ISBN- 10: 0750938080- ISBN-13: 978-0750938082.
- 5) Mitchell, Louise. 2008, (1997). *Stepping Out: Three Centuries of Shoes*. Sydney, Australia: Powerhouse Publishing, ISBN 9781863171243.
- 6) Murstein, Bernard I.1974. *Love, Sex, and Marriage through the Ages*. New York, New York: Springer Publishing Company, HQ503 .M85.
- 7) Sherr, Lynn. 2006. Going under the Knife for the Perfect Pair of Heels. Accessed: March 11, 2008.ABC news.
- 8) Turim, Maureen.1993. "High Angles on Shoes." The Shoe in Art, the Shoe as Art. In in Footnotes on Shoes. Shari Benstock and Suzanne Ferriss, Eds. New Brunswick, *New Jersey: Rutgers University Press*
- 9) West, Janice. 1993. "The Shoe in Art, the Shoe as Art." In in Footnotes on Shoes. Shari Benstock and Suzanne Ferriss, Eds. New Brunswick, New Jersey: *Rutgers University Press*.
- 10) Gamman, Lorraine. 1993. "Self-Fashioning, Gender Display, and Sexy Girl Shoes: What's at Stake-Female Fetishism or Narcissism?" in Footnotes on Shoes. Shari Benstock and Suzanne Ferriss, Eds. New Brunswick, *New Jersey: Rutgers University Press*.
- 11)Kunzle, David, "*Dangerous Elegance", a History of High-Heeled Shoes", Random History. Retrieved 1 July 2010.*
- 12)Narici, Marco et al, *persistent usage of high-heeled shoes causes the calf muscle to shorten, Journal of Experimental Biology, he Economist magazine, p. 84, 2010.*
- 13)Robinson, Caroline, "Health Check: how high heels harm and how to make it better". *The Conversation, Retrieved 25 February 2014.*
- 14)Brakeman, Danielle and al, Healing Arts, University of Southern California, *Northwestern University, Family Podiatry Center, Naperville, Illinois, 20012, U.S.A.*
- 15)Danesi, Marcel, *cigarettes, high heels, and other interesting things*. an introduction to semiotics, Palgrave Macmillan., p. 13. ISBN 0-312-21084-1. (1999).
- 16)Guéguen, Nicolas, " High Heels Increase Women's Attractiveness", a field study, Institute de Management, Université de Bretagne Sud, Rue de la Loi, 56000 Vannes, France,2012 .
- 17)Bruckner, Liz, High heels and your health, *Best Health Magazine*, November/December 2008, www.besthealthmag@rd.com