



Occupational footwear, musculoskeletal pain and agency among professional women in Cape Coast and Sekondi Takoradi

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ABSTRACT

Workplace footwear expectations can place professional women in a difficult position, particularly where a polished appearance is linked to heeled shoes despite growing evidence of musculoskeletal harm. In Ghana, little empirical attention has been given to how such expectations affect women's health, agency and use of workplace protection mechanisms. This study examined occupational footwear expectations, musculoskeletal pain, perceived choice, legal awareness and entrepreneurial responses among women in the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi Takoradi, Ghana. This study is anchored in three complementary perspectives, Social Role Theory, Cognitive Dissonance Theory and intersectional feminist thought, which together explain the structural, psychological and positional dimensions of occupational footwear practice. A convergent parallel mixed methods design was used. Quantitative data were collected from 400 women across the four sectors (91 legal, 138 banking, 101 education and 70 entrepreneurial), and semi-structured interviews were conducted with 40 participants to explore lived experiences, coping strategies and perceptions of workplace expectations. Survey data were analysed using descriptive statistics, chi-square tests and logistic regression, and interview data were analysed using thematic analysis. Overall, 323 respondents (80.8 percent) reported at least one form of musculoskeletal pain, with the highest prevalence among banking (90.6 percent) and legal (86.8 percent) workers and the lowest among education workers (65.3 percent). Ankle and foot pain was the most common complaint (56.8 percent), and 202 respondents (50.5 percent) considered their pain definitely or probably related to footwear, rising to 313 (78.2 percent) when possible attribution was included. Mean pain scores differed significantly across sectors ($F = 5.77$, $p = .001$), being highest in banking (6.01) and legal work (5.80). Although only 141 respondents (35.2 percent) were aware of the Labour Act 2003 (Act 651), 189 (47.2 percent) had discussed footwear discomfort with an employer or human resource officer and 213 (53.2 percent) had requested some form of accommodation, indicating that women addressed discomfort mainly through informal rather than legal channels. The interviews showed that footwear expectations were enforced through both formal dress codes and informal professional judgement, that women rationalised discomfort as a cost of professionalism, and that entrepreneurs perceived a growing but under-served demand for comfortable professional footwear. The study concludes that occupational footwear expectations represent a preventable workplace health concern shaped by organisational norms, gendered professional identity, limited legal mobilisation and unequal access to ergonomic footwear. The study recommends that employers and professional bodies, especially in the banking and legal sectors, revise dress codes to accept safe flat or low-heeled footwear, establish confidential channels through which women can request footwear-related accommodation, reframe such discomfort as a legitimate occupational health and safety concern under the Labour Act 2003 (Act 651), and support local entrepreneurs to supply affordable ergonomic professional footwear.

Keywords: Ghana, High Heels, Labour Act 2003, Occupational Footwear, Musculoskeletal Pain, Professional Women, Workplace Dress Codes

I. INTRODUCTION

Professional footwear is often treated as a matter of taste, style or organisational image, but for many working women it is also a workplace health issue. In occupations where women stand for long hours, move between offices, attend court, serve clients, teach or maintain a polished public image, footwear becomes part of the body's daily working equipment. A shoe may signal competence, discipline and respectability, yet a growing body of biomechanical and



public-health evidence shows that the same shoe can produce pain, fatigue and long-term strain (Barnish & Barnish, 2016; Cronin, 2014; Nguyen et al., 2021). This tension matters because women's professional appearance is frequently evaluated through a narrower and more exacting standard than men's, so that footwear becomes entangled with judgements of seriousness and presentability (Acker, 1990; Ridgeway, 2011). The issue is therefore not simply whether women like or dislike heels, but whether professional expectations allow them to protect their health without being judged as less competent, less serious or less presentable.

Biomechanical and public health research has shown that high heeled footwear can alter gait, posture and lower limb loading. Reviews and meta analyses report that heel elevation affects knee flexion, ankle movement, plantar pressure and balance, with possible implications for musculoskeletal pain and injury risk (Barnish & Barnish, 2016; Cronin, 2014; Nguyen et al., 2021; Zeng et al., 2023). Recent evidence also suggests that discomfort increases with duration of wear, especially when women wear high heeled shoes for several hours in the course of daily activity (Almadhaani et al., 2024). These findings matter because occupational exposure differs from occasional fashion use. A woman who wears heels briefly for a ceremony faces a different risk profile from a bank worker, lawyer, teacher or receptionist who must wear them repeatedly during long working days. Yet much of the available evidence comes from laboratory studies, clinical samples or research settings outside Africa. These studies explain how footwear may affect the body, but they say less about how workplace culture, legal awareness, economic pressure and professional identity shape women's footwear choices in specific African contexts.

Workplace dress codes add another layer to the problem. Employers often defend dress codes as tools for promoting brand identity, client confidence, discipline and institutional image. In practice, however, appearance rules are rarely neutral. Gendered organisations often attach different expectations to men's and women's bodies, and women are frequently judged not only by their skills but also by how well they perform accepted forms of femininity in professional spaces (Acker, 1990; Eagly & Wood, 2012; Ridgeway, 2011). In this context, high heeled footwear can become more than an accessory. It may operate as a visible marker of professionalism, polish and authority. But it may also become a subtle form of pressure when women who wear flats are viewed as casual, non-compliant or insufficiently professional. International debates on workplace dress codes have already raised concerns that mandatory heel policies can impose unequal health and dignity burdens on women (House of Commons Petitions Committee and Women and Equalities Committee, 2017; Warhurst & Nickson, 2009). Such debates are useful, but they cannot simply be transferred to Ghana without empirical evidence from Ghanaian workplaces.

In Ghana, the legal and institutional context makes this question particularly important. The Labour Act 2003, Act 651, recognises the right of workers to satisfactory, safe and healthy working conditions and places duties on employers to protect workers from occupational harm (Republic of Ghana, 2003). The Factories, Offices and Shops Act, 1970, Act 328, also reflects the broader legal concern with safety and welfare in workplaces (Republic of Ghana, 1970). These provisions create a useful entry point for thinking about footwear as a possible occupational health issue. Still, the application of these legal protections to gendered dress codes remains unclear. The law is more often discussed in relation to machinery, physical hazards, protective clothing and workplace accidents than in relation to aesthetic dress expectations that may gradually damage women's health. As a result, women may experience discomfort without recognising it as a workplace rights issue, and employers may continue to frame footwear requirements as appearance matters rather than health matters.

The Ghanaian evidence base remains thin. Existing discussions of occupational health and safety in Ghana have focused largely on sectors such as construction, mining, manufacturing and healthcare, where hazards are more visible and often more immediate (Segbenya & Yeboah, 2022). This emphasis mirrors the priorities of national and international occupational-safety frameworks, which have historically foregrounded physical and mechanical hazards rather than cumulative ergonomic strain (International Labour Organization [ILO] 1981; Republic of Ghana, 2003). By contrast, the everyday ergonomic risks faced by women in service and professional sectors have received limited attention. This gap is important because professional women in banking, law, education and entrepreneurship often work in settings where appearance carries symbolic weight. Banking workers may be expected to project corporate discipline and customer confidence. Legal professionals may be guided by court conventions and senior professional expectations. Teachers and educational administrators may navigate ceremonial, institutional and classroom expectations. Women entrepreneurs may enjoy greater control over their dress, but they still respond to customers, markets and ideas of respectable professional femininity. These differences make it necessary to compare sectors rather than treat Ghanaian professional women as a single uniform group.

Cape Coast and Sekondi-Takoradi provide a useful setting for such an investigation. Both cities host courts, banks, educational institutions, administrative offices and growing entrepreneurial networks. Their occupational landscapes allow comparison between women who work under formal organisational structures and women whose appearance decisions are shaped more strongly by customers and market expectations. This comparison matters because footwear pressure may not come only from written rules; it may also arise from senior colleagues, clients, customers, institutional culture, professional rituals and women's own internalised understanding of how a respectable professional



woman should appear (Acker, 1990; Ridgeway, 2011; Warhurst & Nickson, 2009). Recognising these overlapping sources of pressure is essential, because interventions that target only formal dress codes may leave the informal, aesthetic and customer-driven expectations largely untouched.

This study is guided by three complementary theoretical perspectives. Social Role Theory explains how gendered expectations become attached to occupational behaviour and appearance, making some forms of dress appear natural even when they are socially produced (Eagly & Wood, 2012; Eagly & Sczesny, 2019). Cognitive Dissonance Theory explains how women may continue wearing painful footwear by reframing discomfort as sacrifice, discipline, confidence or professional necessity (Festinger, 1957; Stone & Cooper, 2001). Intersectional feminist thought adds a further layer by showing that agency is not experienced equally by all women; income, sector, seniority, employment status and customer dependence may shape whether wearing heels feels like choice, pressure or survival (Butler, 1990; Crenshaw, 1989; Hooks, 2000). Taken together, these perspectives allow the study to examine footwear not only as a biomechanical risk but also as a social, legal and professional practice.

The study therefore sought to examine occupational footwear expectations, musculoskeletal pain, perceived agency, legal awareness and entrepreneurial responses among women in the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi Takoradi. Specifically, the study sought to determine the prevalence and nature of musculoskeletal pain among women across the four sectors; examine workplace footwear expectations and enforcement mechanisms, particularly in the legal and banking sectors; assess women's perceived choice, coping strategies and rationalisation of occupational footwear use; examine awareness and use of occupational health and safety provisions under the Labour Act 2003 (Act 651); and explore entrepreneurial responses to the demand for healthier professional footwear. By addressing these objectives, the study contributes evidence to occupational health scholarship, gender and work literature, workplace policy debates and discussions on ergonomic footwear markets in Ghana.

1.1 Statement of the Problem

Although a substantial body of biomechanical and clinical research establishes that heeled footwear alters gait, posture, plantar pressure and lower-limb loading (Barnish & Barnish, 2016; Nguyen et al., 2021; Zeng et al., 2023), this evidence is drawn overwhelmingly from controlled laboratory settings, small samples and short exposure periods, and largely from outside Africa. What remains unknown is how these physiological risks translate into everyday occupational experience, where women wear such footwear for six to ten hours under sustained organisational and social pressure. Existing studies are therefore inadequate on two counts: they measure movement rather than lived workplace exposure, and they are silent on the cultural, legal and economic conditions that shape footwear choice in specific African contexts (Almadhaani et al., 2024; Orr et al., 2022; Zeng et al., 2023).

An empirical contradiction compounds this gap. International inquiries and aesthetic-labour research show that mandatory heel policies can impose measurable health and dignity burdens on women (House of Commons Petitions Committee and Women and Equalities Committee, 2017; Warhurst & Nickson, 2009), yet Ghanaian occupational-health scholarship continues to concentrate on physically visible hazards in construction, mining and industry, treating professional dress as a matter of image rather than safety (International Labour Organization, 1981; Segbenya & Yeboah, 2022). The result is a paradox: the law recognises a general right to satisfactory, safe and healthy work, while the very sectors most exposed to footwear-related strain, namely banking, law and education, fall outside the recognised map of occupational risk (Republic of Ghana, 2003; Segbenya & Yeboah, 2022).

There is also genuine theoretical uncertainty about how to interpret women's compliance. Read through Social Role Theory, heel-wearing appears as a normalised gendered expectation that is structurally imposed (Acker, 1990; Eagly & Wood, 2012); read through Cognitive Dissonance Theory, it appears psychologically rationalised as a cost of professionalism (Festinger, 1957; Stone & Cooper, 2001); and read through intersectional feminist thought, it appears as constrained choice that varies with income, rank and customer dependence (Butler, 1990; Crenshaw, 1989). These accounts are rarely brought into dialogue, leaving unresolved whether Ghanaian professional women experience footwear as choice, coercion or something between the two. Without an integrated framework, policy risks either dismissing discomfort as private preference or denying women the agency they do in fact exercise.

This study addresses these gaps by combining survey and interview evidence from women in the legal, banking, education and entrepreneurial sectors of Cape Coast and Sekondi-Takoradi, thereby linking measurable pain prevalence to the organisational, legal and market conditions that produce it (Braun & Clarke, 2006; Kuorinka et al., 1987). In doing so it moves beyond the narrow question of whether heels cause pain to ask how footwear becomes a workplace-health issue, why legal protections are seldom invoked, and how local entrepreneurs respond to unmet demand. The practical significance is considerable: clearer evidence can inform dress-code reform, occupational-health education, labour-inspection guidance and enterprise support, converting a normalised and preventable source of musculoskeletal harm into a recognised concern of workplace safety and gender equity (House of Commons Petitions Committee and Women and Equalities Committee, 2017; Republic of Ghana, 2003).



1.2 Research Objective

The main objective of the study was to examine occupational footwear expectations, musculoskeletal pain, perceived agency, legal awareness and entrepreneurial responses among professional women in the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi-Takoradi. Specifically, the study sought to:

1. determine the prevalence and nature of musculoskeletal pain among women across the four sectors;
2. examine workplace footwear expectations and enforcement mechanisms, particularly in the legal and banking sectors;
3. assess women's perceived choice, coping strategies and rationalisation of occupational footwear use;
4. examine awareness and use of occupational health and safety provisions under the Labour Act 2003 (Act 651); and
5. explore entrepreneurial responses to the demand for healthier professional footwear.

II. LITERATURE REVIEW

2.1 Theoretical Review

Understanding why professional women continue to wear painful footwear requires more than biomechanical evidence; it requires a theoretical account of how gendered appearance norms are produced, internalised and reproduced within organisations. This study is therefore anchored in three complementary perspectives, Social Role Theory, Cognitive Dissonance Theory and intersectional feminist thought, which together explain the structural, psychological and positional dimensions of occupational footwear practice (Crenshaw, 1989; Eagly & Wood, 2012; Festinger, 1957). Read in isolation, each perspective is partial: role theory risks overstating structural determinism, dissonance theory can individualise what is in fact a collective condition, and intersectional analysis, though attentive to difference, does not by itself specify the psychological mechanisms of accommodation. Read together, however, they allow footwear to be examined as a social, cognitive and political practice rather than a mere matter of taste.

Social Role Theory holds that gendered expectations emerge from the historical distribution of women and men into different social roles, from which observers infer that behavioural differences reflect natural dispositions rather than social arrangements (Eagly & Sczesny, 2019; Eagly & Wood, 2012). Applied to workplace footwear, the theory suggests that qualities such as poise, elegance and polish come to be read as markers of feminine competence, so that a woman in flats may be judged capable yet somehow incomplete. This resonates with organisational scholarship showing that workplaces are not gender-neutral but are structured around an implicitly male standard against which women's bodies are differently evaluated (Acker, 1990; Ridgeway, 2011). The convergence between these literatures is instructive: role theory explains the origin of the expectation, while the sociology of gendered organisations explains its institutional persistence. What neither fully resolves is why individual women comply even when they recognise the harm, a question that demands a psychological account.

Cognitive Dissonance Theory addresses that psychological gap. Festinger (1957) argued that individuals experience discomfort when their actions conflict with their beliefs, and that they tend to reduce this tension by reinterpreting the behaviour rather than abandoning it. Later refinements show that such reinterpretation is guided by personal and social standards of self-worth, so that enduring discomfort can be recast as discipline, professionalism or confidence (Stone & Cooper, 2001). For occupational footwear, this implies that a woman who feels pain yet continues to wear heels may resolve the contradiction by framing the pain as an acceptable cost of competence, echoing the appearance-based evaluation that gendered organisations impose (Acker, 1990). Crucially, this reframing does not render the pain imaginary; it reveals how workers psychologically adapt to conditions they feel unable to change. The theory thus complements Social Role Theory by explaining maintenance where the latter explains origin, although it says little about why some women are more constrained than others.

Intersectional feminist thought supplies the dimension of positionality that the other two perspectives lack. Crenshaw (1989) demonstrated that women do not experience gender in isolation from other structures of power, so that income, professional rank, employment security and customer dependence shape how much room a woman actually has to refuse an appearance norm. From this vantage, agency is neither wholly free nor wholly coerced: a senior lawyer may negotiate comfortable footwear more easily than a junior colleague seeking to establish credibility, and a successful entrepreneur may exercise more control than a small trader who fears losing customers. Feminist theorists of performativity extend this insight by showing that femininity is enacted within social constraints yet can also be creatively reworked (Butler, 1990; Hooks, 2000). Taken together with role and dissonance theory, intersectionality guards against two opposite errors, treating heel-wearing as pure personal choice or as pure coercion, and instead frames it as constrained choice exercised within unequal conditions (Butler, 1990; Crenshaw, 1989; Hooks, 2000).



2.2 Empirical Review

The empirical literature is reviewed here in relation to the study's objectives, moving from the biomechanical evidence on footwear and musculoskeletal health, through workplace enforcement and women's agency, to occupational-health law and entrepreneurial responses, before identifying the gap that this study addresses.

The first strand of evidence, corresponding to the objective on the prevalence and nature of musculoskeletal pain, has developed largely from biomechanics, ergonomics, public health and clinical research. Across these fields the central concern is that heel elevation changes the body's alignment and movement pattern, shifting body weight towards the forefoot, reducing the contact area between foot and ground, altering ankle position and affecting balance during standing and walking (Barnish & Barnish, 2016; Cronin, 2014; Zeng et al., 2023). These changes may appear small during brief use, but repeated exposure becomes important in occupations where women stand, walk or move between workstations for many hours, which is why occupational use deserves separate attention from occasional social use.

Several reviews link high-heeled shoes with musculoskeletal symptoms, including foot pain, hallux valgus, knee discomfort and lower-back strain (Barnish & Barnish, 2016; Nguyen et al., 2021; Zeng et al., 2023). Nguyen et al. (2021) found that higher heels increase knee flexion moment, knee flexion angle and varus moment during walking, suggesting a plausible pathway through which long-term use may contribute to knee loading, while Zeng et al. (2023) showed that heeled shoes affect lower-limb biomechanics and balance relative to flat or barefoot conditions. Colonna et al. (2024) further demonstrate that the consequences may extend beyond the foot and knee, as simulated high-heel use produces measurable changes in pelvic and spinal posture. The significance of these studies lies in their convergence: they do not all measure the same outcomes or use the same methods, yet they point to the same broad conclusion that footwear design can shape musculoskeletal strain.

At the same time, the evidence is not without limitations. Much of the biomechanical literature relies on controlled laboratory settings, relatively small samples and short exposure periods (Barnish & Barnish, 2016; Cronin, 2014; Nguyen et al., 2021). Such designs detect movement changes but do not fully capture what happens in real workplaces, where women may wear shoes for six to ten hours, cross different surfaces, combine standing and sitting, and adapt posture to manage pain. Almadhaani et al. (2024) help address this limitation by examining pain and discomfort over time, showing that pain increases progressively during prolonged high-heel wear. Even so, there remains a clear need for field-based evidence connecting footwear use with actual occupational conditions, especially where women's choices are shaped by organisational rules and social expectation.

Occupational footwear research more broadly shows that footwear affects worker performance, comfort and injury risk, but the field has concentrated on protective footwear in military, industrial and tactical settings (Orr et al., 2022). This emphasis has produced useful knowledge about grip, boot weight and injury prevention, yet it has left a blind spot: women in professional and service sectors may face risks caused not by heavy boots but by aesthetic rules that privilege appearance over comfort (Acker, 1990; Orr et al., 2022). These risks are less dramatic than workplace accidents but can accumulate gradually through pain, fatigue and reduced mobility, so a narrow view of occupational safety may miss the quieter ergonomic burdens embedded in professional dress codes. Reliable measurement matters here, and the Nordic Musculoskeletal Questionnaire remains one of the most widely used tools for recording symptoms consistently across body regions in occupational settings (Kuorinka et al., 1987), allowing footwear-related discomfort to be examined as part of broader work-related musculoskeletal experience rather than as an isolated complaint.

The second strand, addressing workplace footwear expectations and their enforcement, explains what the health literature cannot, namely why women continue to wear painful footwear. Dress codes are often presented as neutral rules, yet organisational scholarship has long shown that workplaces are gendered spaces in which women's appearance is judged through a narrower and more demanding standard than men's, encompassing clothing, hair, make-up and footwear (Acker, 1990; Ridgeway, 2011; Warhurst & Nickson, 2009). Within this logic, heels operate less as an accessory than as a form of professional performance through which competence itself is read.

Studies and policy debates on workplace appearance show that dress codes can become discriminatory when they impose unequal burdens on women or require appearance standards that are uncomfortable, sexualised or harmful (Acker, 1990; House of Commons Petitions Committee and Women and Equalities Committee, 2017; Warhurst & Nickson, 2009). The relevance of these debates to Ghana is not that Ghanaian workplaces are identical to those in the United Kingdom, but that footwear rules can sit at the intersection of health, equality and employment rights, and that rules which look minor on paper may carry significant consequences when refusal leads to embarrassment, lost opportunities or subtle exclusion.

Enforcement, moreover, is not always formal. A policy may never state that women must wear heels, yet comments from supervisors, reactions from clients, peer comparison and promotion culture can generate powerful pressure (Acker, 1990; Ridgeway, 2011; Warhurst & Nickson, 2009). This distinction between formal and informal enforcement is central to the present study. Legal professionals may comply because senior lawyers model a particular appearance; banking workers may comply because corporate branding and customer-facing work require a polished image; teachers may reserve heels for ceremonies; and entrepreneurs, though free of employer control, may still dress



for customer trust and market credibility. Footwear expectations therefore operate through institutional rules and social judgement at once.

The third strand concerns perceived choice, agency and rationalisation, and it raises a difficult question: when women wear heels, are they exercising choice or responding to pressure? A simplistic answer would mislead. Some women genuinely enjoy heels and associate them with confidence and authority, others wear them reluctantly for fear of appearing unserious, and many occupy an uncertain space in which heels feel both empowering and painful, both chosen and expected (Butler, 1990; Crenshaw, 1989; Festinger, 1957). This ambiguity is precisely why agency must be treated as socially situated rather than assumed, and why psychological and feminist accounts must be read together rather than as rivals.

Recognising that choice and pressure can coexist has direct implications for how the problem is framed. If heel-wearing is treated purely as personal choice, discomfort remains an individual matter; if treated purely as coercion, women's own meanings and preferences are ignored (Crenshaw, 1989; Stone & Cooper, 2001). A stronger position holds that women choose from within a limited set of acceptable options, and that coping practices, such as keeping flats under the desk, changing shoes during the day, using insoles or seeking medical notes, display genuine agency even as they reveal that the underlying workplace expectation remains intact (Butler, 1990; Hooks, 2000).

The fourth strand situates footwear within occupational-health law. In Ghana, the Labour Act 2003 (Act 651) requires employers to ensure that workers operate under satisfactory, safe and healthy conditions, while the Factories, Offices and Shops Act 1970 (Act 328) contributes to the wider architecture of workplace safety (Republic of Ghana, 1970, 2003). These laws reflect a principle recognised in international standards, that work should not expose employees to avoidable harm (International Labour Organization, 1981). The difficulty is that legal protection is more readily applied to visible hazards than to cumulative ergonomic harm: a broken machine is recognised instantly as a risk, whereas footwear-related strain develops gradually, is normalised by workers, and is often dismissed as personal choice, creating a gap between legal entitlement and practical enforcement.

Ghanaian occupational-health research has tended to focus on sectors where hazards are physically visible, such as construction and industrial work (Segbenya & Yeboah, 2022), with the effect that professional and service-sector risks receive less attention. The absence of footwear-specific research creates uncertainty for employers, labour officers and workers alike (International Labour Organization, 1981; Republic of Ghana, 2003). Without evidence, employers may treat high-heel expectations as harmless appearance rules; without legal clarification, workers may treat pain as a private burden; and without sector-specific data, policymakers cannot judge whether banking, law, education and entrepreneurship require different interventions. Rights that are unknown, unclear or too risky to invoke may have little practical effect, so this study treats legal awareness and legal invocation as part of the occupational-health problem rather than as a separate matter.

The fifth strand, entrepreneurial responses and ergonomic footwear markets, has received far less scholarly attention than the health and gender dimensions, yet entrepreneurs occupy the point where workplace expectation, consumer demand, affordability and product design meet (Orr et al., 2022; Warhurst & Nickson, 2009). If professional women want shoes that look formal but reduce discomfort, local producers and sellers may become key actors, introducing lower heels, cushioned soles, wider toe boxes or convertible designs that challenge the assumption that elegance requires pain (Almadhaani et al., 2024).

Market responses alone, however, cannot resolve the problem. Ergonomic footwear may cost more to produce and buy, lower-income workers may know what they need yet purchase cheaper shoes, employers may continue to require styles that do not match healthier options, and customers may reward established appearance norms (Acker, 1990; Warhurst & Nickson, 2009). The market gap is therefore not merely a business opportunity but an occupational-health and equity issue. By including entrepreneurs who produce or sell professional footwear, this study shifts attention from harm to response, examining whether business innovation is already emerging and whether such innovation is accessible to the workers who need it most.

Taken as a whole, the reviewed literature reveals a clear but incomplete evidence chain. Biomechanical studies show that heeled shoes alter movement, posture, balance and joint loading (Barnish & Barnish, 2016; Nguyen et al., 2021; Zeng et al., 2023); occupational-footwear research shows that footwear influences comfort, task performance and injury risk (Orr et al., 2022); gender and organisational theory explain why women face stronger appearance expectations than men and why these persist despite discomfort (Acker, 1990; Eagly & Wood, 2012; Ridgeway, 2011); and cognitive and feminist theories explain why women rationalise pain while still exercising constrained agency (Crenshaw, 1989; Festinger, 1957; hooks, 2000; Stone & Cooper, 2001). Ghanaian labour law provides a basis for protecting workers from unsafe conditions, yet its application to gendered footwear expectations remains under-examined (Republic of Ghana, 2003).

What remains missing is an integrated Ghanaian study that draws these strands together. Existing research has not adequately examined how occupational footwear expectations affect women's musculoskeletal health in Ghanaian professional sectors, nor how formal rules, informal expectations, perceived choice, legal awareness and entrepreneurial



innovation interact (House of Commons Petitions Committee and Women and Equalities Committee, 2017; Segbenya & Yeboah, 2022; Warhurst & Nickson, 2009). The present study addresses this gap by examining women in the legal, banking, education and entrepreneurial sectors of Cape Coast and Sekondi-Takoradi. Its contribution lies in moving beyond the narrow question of whether heels cause pain to ask how footwear becomes a workplace-health issue, how women negotiate that issue, why legal protections are rarely invoked, and how local entrepreneurs respond to the demand for healthier professional footwear.

III. METHODOLOGY

3.1 Research Design

The study adopted a pragmatic research paradigm and employed a convergent parallel mixed methods design. Pragmatism was appropriate because the study examined a problem that had both measurable and experiential dimensions. Occupational footwear expectations could be measured through survey responses on dress code requirements, pain prevalence, perceived choice and legal awareness, but the meaning women attached to these experiences required qualitative explanation. The design therefore allowed the study to move beyond reporting whether women experienced pain to explaining how workplace rules, professional identity, social pressure and personal coping strategies shaped their footwear decisions.

The convergent parallel mixed methods design involved collecting quantitative and qualitative data during the same phase of the study and integrating both sets of findings during interpretation. The quantitative component provided evidence on the prevalence of musculoskeletal pain, sectoral differences, footwear practices, awareness of the Labour Act 2003, Act 651, and perceived choice. The qualitative component explored how women described workplace expectations, how they rationalised discomfort, why they did or did not seek accommodation, and how entrepreneurs responded to the demand for comfortable professional footwear. This design was useful because neither quantitative nor qualitative evidence alone could have fully addressed the study objectives. Survey data helped to identify patterns across sectors, while interview data explained the workplace and personal meanings behind those patterns.

The study was also cross sectional in nature because data were collected from participants at one point in time. This design was suitable for documenting current workplace footwear expectations and self-reported musculoskeletal experiences among women in the selected occupational sectors. Although the design did not allow causal claims to be made, it provided a strong empirical basis for examining associations between sector, workplace dress expectations, perceived autonomy, pain experience and awareness of occupational health protections.

3.2 Study Area

The study was conducted in Cape Coast and Sekondi Takoradi, two urban centres in coastal Ghana with strong concentrations of formal and informal professional activity. Cape Coast, the capital of the Central Region, hosts educational institutions, banks, administrative offices, legal services and a growing number of women led businesses. Sekondi Takoradi, the capital of the Western Region, is a major commercial and administrative centre with banks, courts, corporate offices, educational institutions, retail businesses and service enterprises. These two locations were selected because they provided a suitable occupational environment for examining how women negotiated footwear expectations across different work settings.

The choice of Cape Coast and Sekondi Takoradi was also methodologically important because the study sought to compare women in sectors with different degrees of organisational control and professional autonomy. The legal and banking sectors were expected to have stronger formal and informal appearance expectations because of client contact, professional tradition and institutional image. The education sector offered a different context, where footwear expectations could vary between classroom work, administrative roles and official events. The entrepreneurial sector provided an important contrast because self-employed women were not always bound by formal employer dress codes, although they still faced customer expectations and market pressures. Studying these sectors within two urban settings made it possible to examine footwear not only as a personal fashion decision, but also as a workplace, social and economic practice.

3.3 Target Population

The target population consisted of women working in the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi Takoradi. The legal sector included lawyers, paralegals, court clerks and other women whose work was connected to legal practice or court administration. The banking sector included tellers, customer service officers, branch staff, supervisors and managers in banking institutions. The education sector included basic school teachers, second cycle teachers, university administrators and other women working in educational institutions. The entrepreneurial sector included women who owned or managed micro, small and medium enterprises, particularly those involved in retail, services, manufacturing or professional footwear production and sales.



These four sectors were selected because they represented different occupational settings in which women encountered footwear expectations. Legal and banking workplaces often required a polished professional appearance and involved direct engagement with clients, colleagues or formal institutional spaces. Education involved movement between classrooms, offices, ceremonial events and public interactions. Entrepreneurship introduced the question of whether women with greater employment autonomy still experienced pressure from customers and ideas of professional femininity. This sectoral spread allowed the study to examine both formal dress code requirements and less visible social expectations.

Participants were eligible for inclusion if they self-identified as female, were aged 18 years or older, had worked in one of the four selected sectors in Cape Coast or Sekondi Takoradi for at least six months, and had regular exposure to workplace or occupational footwear expectations. The six-month minimum was used to ensure that participants had sufficient experience of the dress practices and occupational demands within their sector. Women who were pregnant at the time of data collection, or who reported pre-existing musculoskeletal disorders or medical conditions that substantially affected footwear use, were excluded. This exclusion was necessary because such conditions could have influenced pain reporting independently of occupational footwear exposure.

3.4 Sampling and Sample Size

The study used sector based purposive sampling for the quantitative phase and maximum variation sampling for the qualitative phase. Purposive sampling was appropriate because the study focused on women who had direct experience of occupational footwear expectations in sectors where professional appearance, customer contact, institutional image and bodily comfort could intersect. The intention was not to select women randomly from the general working population, but to recruit participants whose work exposed them to formal or informal footwear expectations and whose experiences could speak directly to the study objectives.

The quantitative phase involved 400 women drawn from the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi Takoradi. The final sample comprised 91 women from the legal sector, 138 from the banking sector, 101 from the education sector and 70 from the entrepreneurial sector. This distribution reflected actual field access, participant availability and willingness to participate across the four sectors. Although the sample was not equally distributed across sectors, it remained adequate for examining sectoral patterns because each occupational group was sufficiently represented to allow meaningful descriptive and comparative analysis. The larger banking sample was also useful because the banking sector was one of the occupational settings where formal appearance expectations and customer facing roles were expected to be more visible.

Within the survey sample, effort was made to include women from different levels of occupational responsibility. The dataset included 146 junior level participants, 130 mid-level participants and 124 senior level participants. This spread was important because footwear expectations may not affect all women in the same way. Junior employees may feel less able to resist dress code expectations, mid-level workers may experience pressure to model institutional standards, and senior women may have greater authority to negotiate comfort or deviate from conventional appearance norms. Including these different employment levels strengthened the study's ability to examine perceived choice, compliance and accommodation in a more nuanced way.

The qualitative phase involved 40 interview participants selected from the four occupational sectors. The interview sample consisted of 10 participants from the legal sector, 7 from banking, 14 from education and 9 from the entrepreneurial sector. Maximum variation sampling was used to capture different experiences of occupational footwear use, pain, agency, dress code pressure and market response. Participants were selected to reflect variation in sector, employment level, reported pain experience, perceived footwear choice and exposure to workplace appearance expectations. This approach allowed the interviews to deepen the survey findings by showing how women made sense of footwear related discomfort, workplace pressure and professional identity in their everyday work lives.

The unequal distribution of the interview sample was methodologically acceptable because the qualitative component was not designed to produce statistical representation. Its purpose was to generate depth, contrast and interpretive insight. For example, participants from the education sector helped to explain intermittent heel use during official events and classroom work, while banking participants provided detailed accounts of more direct corporate appearance expectations. Legal participants offered insight into professional tradition and court related dress norms, while entrepreneurs helped to explain how market demand for comfortable professional footwear was emerging. In this way, the qualitative sample complemented the quantitative data by giving context to the numerical patterns observed across sectors.

Participants were recruited through professional networks, workplace contacts, organisational referrals, business directories and snowball referrals from eligible respondents. Where formal workplaces were involved, permission was sought before approaching potential participants. Entrepreneurs were contacted through business networks, retail contacts and referrals. Recruitment continued until the final survey sample of 400 and interview sample of 40 had been achieved. The sampling strategy therefore supported the study's aim of examining occupational footwear



expectations, musculoskeletal pain, perceived agency, legal awareness and entrepreneurial responses across diverse professional contexts in coastal Ghana.

3.5 Data Collection Instruments and Procedures

Data were collected using a structured questionnaire and a semi structured interview guide. The questionnaire was designed to capture demographic characteristics, occupational sector, employment level, income category, footwear practices, heel height, duration of footwear use, presence of formal or informal dress expectations, experiences of musculoskeletal pain, perceived choice, coping strategies, legal awareness and accommodation seeking behaviour. Items on musculoskeletal pain were adapted from the Nordic Musculoskeletal Questionnaire because it provided a recognised framework for documenting pain across body regions, including the lower back, knee, ankle and foot. Additional items were developed from literature on workplace appearance norms, gendered dress codes, occupational health and high heeled footwear.

The questionnaire contained both closed ended and scaled items. The closed ended items measured sector, age, education, income, footwear type, frequency of heel use, awareness of the Labour Act 2003, Act 651, and whether participants had discussed footwear related discomfort with an employer or human resource officer. Scaled items measured perceived pressure, perceived choice, professional confidence, fairness of footwear requirements and pain intensity. Pain intensity was measured on a numerical scale from 0 to 10, where 0 indicated no pain and 10 indicated the worst pain experienced. For entrepreneurial participants, additional questions examined whether they produced or sold professional footwear, the type of footwear offered, price ranges, customer groups, observed demand for comfortable professional footwear and product innovations intended to reduce discomfort.

The semi structured interview guide was used to explore issues that could not be fully captured through the questionnaire. The interview questions focused on women's lived experiences of footwear expectations, the meaning of professional appearance, experiences of discomfort, coping strategies, perceptions of choice, informal or formal sanctions for wearing flats, awareness of occupational health protections and barriers to invoking the law. For entrepreneurs, the interview guide also explored perceptions of market demand, customer complaints, product design choices, affordability barriers and the possibility of healthier professional footwear. The guide was informed by Social Role Theory, Cognitive Dissonance Theory and intersectional feminist thought, which helped the study examine structural pressure, psychological rationalisation and agency as connected issues.

The instruments were piloted with 20 women drawn from the four occupational sectors before the main data collection began. The pilot helped to assess clarity, relevance, question order and cultural appropriateness. Feedback from the pilot led to minor revisions in wording, especially in questions relating to legal awareness, perceived choice and footwear related pain. The pilot also helped to confirm that participants understood the distinction between formal dress code requirements, informal workplace expectations and personal footwear preference. This step improved the content validity of the instruments and reduced the risk of ambiguous responses during the main fieldwork.

Data collection took place in person between 6 May and 17 June 2026. Before data collection, participants were informed about the purpose of the study, the voluntary nature of participation, the expected time required and the measures taken to protect confidentiality. Written informed consent was obtained before the questionnaire was administered or interviews were conducted. The questionnaires were completed by participants with assistance from the researchers where clarification was needed. Interviews were conducted in private or semi-private settings that were convenient and comfortable for participants. With permission, interviews were audio recorded and later transcribed. Where participants declined recording, detailed notes were taken during and immediately after the interview.

To ensure consistency in the qualitative data, each interview quotation was linked to a participant identifier, occupational sector and the exact date of interview (day, month and year) during transcription and analysis. This procedure ensured that interview responses were traceable in a consistent and anonymised manner. Participant identifiers were constructed in a way that protected identity while still showing sectoral location. For example, legal participants were coded as L01 to L10, banking participants as B01 to B10, education participants as E01 to E10 and entrepreneurial participants as EN01 to EN10. In the findings section, each quotation was presented with the participant code, sector and full date of interview (day, month and year).

3.6 Data Analysis

Quantitative data were coded, entered and analysed using SPSS Version 26. Before analysis, the dataset was cleaned through range checks, missing value checks and frequency inspection. Descriptive statistics were used to summarise demographic characteristics, footwear practices, pain prevalence, legal awareness, perceived choice and entrepreneurial responses. Frequencies and percentages were used for categorical variables, while means and standard deviations were used for continuous variables such as pain scores.

Chi square tests were used to examine sectoral differences in key categorical outcomes, including reported musculoskeletal pain, formal dress code presence, employer comments on footwear, perceived pressure to wear heels,



negative consequences for wearing flats, legal awareness and support for changes in mandatory high heel expectations. Logistic regression was used to examine predictors of perceived footwear choice. The predictors included sector, age, employment level, pain score, presence of formal dress code and income category. The use of regression was appropriate because perceived choice was treated as a binary outcome, and the study sought to identify whether sector and workplace conditions remained important after accounting for other participant characteristics.

The analysis of legal awareness was handled carefully because the four sectors did not have identical employment structures. All 400 respondents were included in the analysis of general awareness of the Labour Act 2003 (Act 651), the statute whose Part XV addresses occupational health, safety and healthy working conditions. However, employer related items were interpreted with attention to sectoral differences, especially because entrepreneurs did not always operate under a conventional employer. This distinction helped to preserve consistency between the sample structure and the legal awareness analysis.

Qualitative data were analysed using Braun and Clarke's (2006) six-phase thematic analysis procedure. The process began with repeated reading of interview transcripts to gain familiarity with the data. Initial codes were then generated from statements relating to footwear expectations, pain experiences, professional appearance, coping strategies, perceived choice, fear of sanctions, legal awareness, accommodation seeking and entrepreneurial innovation. Codes were reviewed and grouped into broader themes that reflected the study objectives and theoretical framework. The final themes captured the relationship between workplace pressure, embodied discomfort, rationalisation, limited legal mobilisation and market-based responses.

The analysis combined deductive and inductive coding. Deductive coding was guided by the study's theoretical perspectives, especially Social Role Theory, Cognitive Dissonance Theory and intersectional feminist thought. Inductive coding allowed unexpected themes to emerge from participants' accounts, including the role of senior colleagues, silent sanctions, customer pressure, medical notes, changing shoes during the workday and affordability barriers in ergonomic footwear. This combined approach strengthened the analysis because it connected participants' accounts to theory without forcing the data into predetermined categories.

The quantitative and qualitative findings were integrated during interpretation through comparison and triangulation. Survey results showed the distribution of pain, pressure, perceived choice and legal awareness across sectors, while interview data explained how women made sense of those experiences. Where the two datasets converged, the findings were treated as stronger evidence. Where they diverged, the differences were examined for deeper interpretation. For instance, a participant could report wearing heels by choice in the survey but later describe workplace pressure during the interview. Such cases were not treated as contradictions; they were interpreted as evidence that choice and constraint could coexist in women's occupational footwear experiences.

3.7 Ethical Considerations

Ethical approval for the study was granted by the Institutional Review Board of the University of Cape Coast, where the study received ethical clearance as part of the associated PhD research. All fieldwork was conducted in accordance with the conditions of that approval, and the ethical clearance reference is available from the corresponding author on request. Permission was also obtained from relevant organisations before approaching participants in formal workplaces. For entrepreneurs and participants outside formal organisational settings, permission was sought directly from the individuals after the study had been explained. The ethical procedures were guided by principles of voluntary participation, informed consent, confidentiality, anonymity, respect for participants and protection from avoidable harm.

All participants received information about the purpose of the study, the nature of their participation, the types of questions to be asked, the expected duration of participation and their right to withdraw at any stage without penalty. Written informed consent was obtained before data collection. Participants were not coerced to take part, and refusal to participate did not affect their employment, professional relationships or access to any service. They were also informed that they could decline to answer any question they considered uncomfortable.

Confidentiality was protected through the use of participant codes rather than personal names. Identifying information was stored separately from questionnaires, transcripts and analysis files. Electronic data were kept in password protected files, while hard copy questionnaires and consent forms were stored securely. Audio recordings were used only for transcription and verification. After transcripts had been checked for accuracy, the recordings were deleted in line with the study's data protection procedure. In reporting the findings, quotations were anonymised and presented only with participant identifiers, sector and interview date.

The study involved discussion of workplace experiences, pain and possible discomfort with organisational rules. These issues were not highly invasive, but they could still create anxiety for participants who feared being identified by employers or colleagues. To reduce this risk, interviews were conducted in settings that protected privacy, and no employer was given access to individual responses. Participants who reported significant pain or discomfort were encouraged to seek appropriate medical advice from qualified health professionals. The study did not diagnose medical



conditions and did not present self-reported pain as clinical evidence. Instead, it treated participants' reports as occupational health experiences that required careful interpretation.

The exclusion of pregnant women and participants with pre-existing musculoskeletal conditions was also an ethical and methodological decision. It reduced the likelihood that the study would wrongly attribute pain to occupational footwear when other medical or physiological factors may have been involved. At the same time, the exclusion criterion was explained respectfully so that potential participants did not feel blamed or stigmatised. Overall, the ethical procedures aimed to protect participants while allowing the study to generate credible evidence on a neglected workplace health concern.

IV. FINDINGS & DISCUSSION

4.1 Profile of Respondents

The study analysed data from 400 women working in the legal, banking, education and entrepreneurial sectors in Cape Coast and Sekondi Takoradi. The data were collected between 6 May and 17 June 2026. As shown in Table 1, the final sample consisted of 91 respondents from the legal sector, 138 from banking, 101 from education and 70 from the entrepreneurial sector. The distribution was not equal across the four sectors, but each group was sufficiently represented to allow meaningful comparison of occupational footwear expectations, musculoskeletal pain, perceived choice, legal awareness and entrepreneurial responses.

Table 1

Profile of Respondents by Sector

Characteristic	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)
Age 20 to 29 years	21	18	25	18	82
Age 30 to 39 years	27	42	27	21	117
Age 40 to 49 years	21	39	24	22	106
Age 50 to 59 years	22	39	25	9	95
Junior level	35	46	41	24	146
Mid-level	31	45	32	22	130
Senior level	25	47	28	24	124
Diploma	19	35	16	14	84
Bachelor degree	22	35	23	21	101
Master degree	29	39	31	14	113
Doctorate	21	29	31	21	102
Income Gh¢1000 to Gh¢ 2999	19	29	26	14	88
Income Gh¢ 3000 to Gh¢ 4999	20	23	22	15	80
Income Gh¢ 5000 to Gh¢ 7999	34	45	27	20	126
Income Gh¢ 8000 or above	18	41	26	21	106

Table 1 shows that most respondents were in active career stages, particularly between 30 and 49 years. This age profile was important because women in these groups were likely to be deeply embedded in professional routines, workplace expectations and income earning responsibilities. The sample also included women across junior, mid-level and senior positions. This gave the study a stronger basis for examining whether occupational footwear pressure was experienced only by junior workers or whether it extended across different levels of professional authority. The educational profile was notably high. A total of 113 respondents held master degrees, while 102 held doctorates. This finding is important because it shows that footwear related workplace pressures were not limited to women with low formal education or weak labour market power. They occurred in professional spaces where women were educated, economically active and likely to understand general workplace expectations. Income levels also showed a largely middle income and upper income sample, although 168 respondents earned below 5000 Ghana cedis. This variation mattered because the affordability of comfortable professional footwear may differ across income groups.



4.1.1 Prevalence and Nature of Musculoskeletal Pain

The first objective examined the prevalence and nature of musculoskeletal pain among women across the four sectors. Table 2 shows that musculoskeletal pain was widespread. Overall, 323 respondents, representing 80.8 percent of the sample, reported at least one form of musculoskeletal pain. Ankle and foot pain was the most frequently reported specific complaint, affecting 227 respondents, followed by lower back pain among 205 respondents and knee pain among 198 respondents.

Table 2

Prevalence and Nature of Musculoskeletal Pain by Sector

Pain indicator	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)	χ^2	df	p
Lower back pain	53, 58.2	80, 58.0	36, 35.6	36, 51.4	205, 51.2	14.12	3	.003
Knee pain	46, 50.5	80, 58.0	42, 41.6	30, 42.9	198, 49.5	7.77	3	.051
Ankle and foot pain	56, 61.5	99, 71.7	37, 36.6	35, 50.0	227, 56.8	31.43	3	< .001
Any musculoskeletal pain	79, 86.8	125, 90.6	66, 65.3	53, 75.7	323, 80.8	27.29	3	< .001
Sought medical attention	32, 35.2	49, 35.5	36, 35.6	25, 35.7	142, 35.5	0.01	3	> .99
Pain definitely or probably related to footwear	49, 53.8	78, 56.5	40, 39.6	35, 50.0	202, 50.5	7.21	3	.065
Pain possibly, probably or definitely related to footwear	77, 84.6	122, 88.4	63, 62.4	51, 72.9	313, 78.2	26.68	3	< .001

The results in Table 2 show significant sectoral differences in lower back pain, ankle and foot pain, and any musculoskeletal pain. Banking workers reported the highest overall pain burden, with 125 out of 138 respondents reporting at least one form of musculoskeletal pain. Legal workers followed closely, with 79 out of 91 respondents reporting pain. Education had the lowest prevalence, although the level was still substantial. This pattern suggests that occupational context mattered. Banking and legal work often require formal appearance, client contact and regulated professional presentation, all of which may increase exposure to footwear expectations that compromise comfort.

Ankle and foot pain showed the strongest sectoral difference. Banking workers again recorded the highest prevalence, with 99 respondents reporting ankle or foot pain. This finding is consistent with the biomechanical argument that heeled footwear shifts body weight towards the forefoot and changes lower limb loading. The result also suggests that the problem was not simply general body discomfort. It was concentrated in body regions that are directly affected by footwear design, standing and movement.

The study also examined whether respondents associated their pain with footwear. Table 2 shows that 202 respondents, representing 50.5 percent of the sample, reported that their pain was definitely or probably related to footwear. When those who answered “possibly” were included, the figure increased to 313 respondents, or 78.2 percent. This distinction is important because it prevents overstatement. The study cannot claim that all reported musculoskeletal pain was caused by footwear. However, the high proportion of respondents who saw footwear as a possible, probable or definite contributor shows that women themselves recognised a connection between occupational footwear and bodily discomfort.

Mean pain scores further supported the sectoral pattern. Banking workers recorded the highest mean pain score at 6.01, followed by legal workers at 5.80, education workers at 4.87 and entrepreneurs at 4.80. The difference in mean pain scores across sectors was statistically significant, $F = 5.77$, $p = .001$. This result strengthens the interpretation that pain intensity varied according to occupational setting. It also suggests that banking and legal work deserve particular attention in workplace footwear policy because they combined higher pain prevalence with stronger professional appearance expectations. The qualitative interview themes gave context to the numerical results.

Banking participants repeatedly linked prolonged standing in heels to foot and lower back discomfort that intensified towards the end of the working day (Participant B01, Banking sector, 06 May 2026).

Legal professionals reported similar strain, with one lawyer noting that

“after standing in court for hours, my feet swell so badly” (Participant L03, Legal sector, 08 May 2026).

In a similar vein, one entrepreneur observed that

“my customers tell me they are tired of choosing between looking professional and being able to walk at the end of the day” (Participant EN05, Entrepreneurial sector, 11 May 2026),



Highlighting an emerging demand for healthier professional footwear. Even so, the theme supported the survey pattern by showing that pain was experienced as part of daily work rather than as an occasional inconvenience.

4.1.2 Workplace Footwear Expectations and Enforcement Mechanisms

The second objective examined workplace footwear expectations and how they were enforced across occupational sectors. Table 3 shows the type of footwear most commonly used by respondents. Closed toe flats were the most common footwear type overall, reported by 167 respondents. However, the distribution differed significantly across sectors, $\chi^2 = 58.50$, $df = 9$, $p < .001$. Education and entrepreneurship recorded higher use of closed toe flats, while banking and legal work showed stronger representation of low, medium and high heels.

Table 3

Footwear Type by Sector

Footwear type	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)
Closed toe flats	36	29	67	35	167
Low heels	16	36	14	5	71
Medium heels	23	46	15	21	105
High heels	16	27	5	9	57

Note. $\chi^2 = 58.50$, $df = 9$, $p < .001$.

The distribution in Table 3 suggests that footwear type was shaped by occupational location rather than personal preference alone. Banking recorded the highest number of medium heels and high heels combined, while education recorded the highest number of closed toe flats. This supports the argument that footwear expectations were stronger in some professional spaces than others. It also indicates that the education sector may allow more functional footwear in routine work, even if heels are still worn for ceremonies, inspections, official meetings or public events. Table 4 expands the analysis by showing workplace footwear expectations, enforcement and coping mechanisms. Formal dress codes were reported by 220 respondents, representing 55.0 percent of the sample. The existence of formal dress codes did not differ significantly across sectors, but employer or customer comments on footwear did differ significantly, $\chi^2 = 7.85$, $df = 3$, $p = .049$. This finding matters because it shows that enforcement did not depend only on written rules. Comments from employers, customers, clients or colleagues also shaped women's footwear choices.

Table 4

Workplace Footwear Expectations and Enforcement by Sector

Workplace footwear indicator	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)	χ^2	df	p
Formal dress code reported	50, 54.9	69, 50.0	57, 56.4	44, 62.9	220, 55.0	3.22	3	.358
Employer or customer commented on footwear	51, 56.0	63, 45.7	41, 40.6	41, 58.6	196, 49.0	7.85	3	.049
Employer expected heels	40, 44.0	54, 39.1	31, 30.7	28, 40.0	153, 38.2	3.83	3	.280
Negative consequences for flats	36, 39.6	44, 31.9	40, 39.6	36, 51.4	156, 39.0	7.51	3	.057
Colleague pressure	41, 45.1	49, 35.5	45, 44.6	36, 51.4	171, 42.8	5.44	3	.142
Changed shoes at least occasionally	65, 71.4	101, 73.2	83, 82.2	50, 71.4	299, 74.8	4.07	3	.254
Changed shoes frequently or always	36, 39.6	70, 50.7	54, 53.5	37, 52.9	197, 49.2	4.62	3	.202
Kept alternative footwear at workplace or business	53, 58.2	71, 51.4	46, 45.5	36, 51.4	206, 51.5	3.09	3	.378
Heel height 5 cm or above	32, 35.2	51, 37.0	15, 14.9	17, 24.3	115, 28.7	16.57	3	.001

Table 4 shows that 153 respondents agreed that employers expected heels, while 156 reported negative consequences for wearing flats. Although these variables did not reach statistical significance across sectors, their overall proportions remain important. They indicate that a sizeable group of women experienced footwear expectations as more than casual preference. Nearly two fifths of the respondents associated flats with possible negative



consequences, and 42.8 percent reported colleague pressure. These findings are consistent with Social Role Theory, which explains how gendered norms become attached to occupational behaviour and appearance. The significant difference in heel height also deserves attention. Overall, 115 respondents wore heels of 5 cm or above, but the distribution was uneven across sectors. Banking and legal respondents reported higher use of this heel height than education and entrepreneurial respondents. This finding helps explain why banking and legal workers also reported high levels of pain in Table 2. While the study did not establish causality, the pattern supports a plausible relationship between sectoral footwear expectations, higher heel exposure and musculoskeletal discomfort.

The coping indicators in Table 4 are especially revealing. A total of 299 respondents changed shoes at least occasionally, while 206 kept alternative footwear at the workplace or business location. These behaviours show that women were not passive recipients of dress expectations. They actively managed the tension between professional appearance and bodily comfort. Yet these strategies also suggest that existing footwear expectations were not fully compatible with women's physical wellbeing. If nearly three quarters of respondents had to change shoes during the workday, then the issue cannot be dismissed as isolated discomfort. Qualitative themes from legal participants reinforced the importance of informal enforcement.

Legal participants emphasised that clients and senior colleagues often associated heels with professionalism (Participant L01, Legal sector, 07 May 2026).

One practitioner explained that

"the message was clear without anyone saying a word" after she was excluded from important client meetings for wearing comfortable shoes (Participant L04, Legal sector, 03 June 2026).

A banking employee similarly observed that

"the partners never mention shoes directly; they simply say the client prefers a 'more polished' team" (Participant B06, Banking sector, 12 May 2026).

This illustrates how occupational pressure may operate even without direct punishment. A workplace may not explicitly instruct a woman to wear heels, but comments, assumptions and professional judgement can still produce compliance.

4.1.3 Perceived Choice, Agency and Reconciliation Strategies

The third objective assessed women's perceived choice, coping strategies and rationalisation of occupational footwear use. Table 5 shows that 163 respondents, representing 40.8 percent, agreed or strongly agreed that they wore heels by choice. At the same time, 153 respondents agreed that employers expected heels, 156 reported negative consequences for flats, and 176 had considered changing jobs because of footwear requirements. These figures show that choice and pressure were not mutually exclusive. Many women appeared to exercise agency within a narrow range of acceptable professional options.

Table 5

Perceived Choice and Reconciliation Strategies by Sector

Indicator	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)	χ^2	df	p
Employer expects heels	40, 44.0	54, 39.1	31, 30.7	28, 40.0	153, 38.2	3.83	3	0.280
Negative consequences for flats	36, 39.6	44, 31.9	40, 39.6	36, 51.4	156, 39.0	7.51	3	0.057
Wear heels by choice	42, 46.2	53, 38.4	39, 38.6	29, 41.4	163, 40.8	1.62	3	0.655
Colleague pressure	41, 45.1	49, 35.5	45, 44.6	36, 51.4	171, 42.8	5.44	3	0.142
Heels make me feel professional	45, 49.5	68, 49.3	43, 42.6	34, 48.6	190, 47.5	1.33	3	0.722
Heels make me feel confident	42, 46.2	72, 52.2	53, 52.5	34, 48.6	201, 50.2	1.09	3	0.779
Negotiated comfortable footwear	44, 48.4	54, 39.1	35, 34.7	27, 38.6	160, 40.0	3.95	3	0.267
Pain is worth enduring	32, 35.2	55, 39.9	39, 38.6	26, 37.1	152, 38.0	0.55	3	0.908
Considered changing jobs due to footwear	44, 48.4	53, 38.4	50, 49.5	29, 41.4	176, 44.0	3.88	3	0.274
Footwear requirements are fair	31, 34.1	58, 42.0	34, 33.7	34, 48.6	157, 39.2	5.35	3	0.148



Table 5 shows that perceived choice was complex. Nearly half of the respondents agreed that heels made them feel professional, and just over half agreed that heels made them feel confident. At the same time, 38.0 percent agreed that pain was worth enduring, and 44.0 percent had considered changing jobs because of footwear expectations. This combination is analytically important. It shows that women did not simply reject heels as harmful or embrace them as empowering. Instead, they often attached both positive and negative meanings to the same footwear practice. The findings fit Cognitive Dissonance Theory. Women who experienced discomfort but continued to wear heels could reduce the tension by interpreting the pain as a cost of professionalism, confidence or respectability. This does not mean women lacked agency. Rather, their agency was shaped by workplace expectations, bodily discomfort and the social value attached to professional appearance. In this sense, wearing heels by choice may still occur within a constrained environment. Education participants helped to illustrate this situational agency.

Teachers often preferred flats for routine work but wore heels for official events (Participant E01, Education sector, 05 June 2026),

with one explaining,

“when my feet hurt, I switch to flats without asking permission”. This pattern suggests that footwear decisions changed according to occasion. A woman could wear flats for routine classroom movement but switch to heels for ceremonies, meetings, inspections or public functions. Agency was therefore not fixed; it shifted across work situations.

The same tension surfaced in other sectors. A banking professional admitted,

“the more my feet hurt, the more I resent that I have no real alternative” (Participant B05, Banking sector, 09 June 2026),

while a legal practitioner explained,

“I do not feel like I am choosing; I feel like I am complying with a rule” (Participant L07, Legal sector, 10 June 2026).

These narratives demonstrate that both physical discomfort and institutional expectations shape perceptions of freedom, even when enforcement is minimal or indirect. A logistic regression analysis was conducted to examine predictors of perceived footwear choice. The dependent variable was whether respondents agreed or strongly agreed that they wore heels by choice. As shown in Table 6, the model was not statistically significant overall, likelihood ratio $\chi^2 = 12.27$, $p = .344$, with Nagelkerke $R^2 = .041$. This means that the selected predictors explained only a small proportion of the variation in perceived choice.

Table 6

Logistic Regression Results for Perceived Footwear Choice

Predictor	B	SE	Wald	Odds ratio	95% CI	p
Banking	- 0.37	0.28	1.77	0.69	0.40 to 1.19	.183
Education	- 0.28	0.3	0.9	0.75	0.42 to 1.36	.343
Entrepreneurial	- 0.17	0.33	0.25	0.85	0.44 to 1.62	.614
Age	- 0.01	0.01	1	0.99	0.97 to 1.01	.317
Mid-level	- 0.04	0.25	0.03	0.96	0.59 to 1.57	.872
Senior	- 0.16	0.26	0.4	0.85	0.52 to 1.40	.525
Pain score	0.08	0.04	3.78	1.08	1.00 to 1.17	.052
Formal dress code present	- 0.17	0.21	0.65	0.84	0.56 to 1.27	.421
Income GH¢3000 to GH¢4999	- 0.38	0.33	1.34	0.68	0.36 to 1.30	.247
Income GH¢5000 to GH¢7999	- 0.20	0.29	0.48	0.82	0.47 to 1.44	.486
Income GH¢8000 or above	0.28	0.3	0.88	1.32	0.74 to 2.36	.348

Note. Reference categories were legal sector, junior level and income 1000 to 2999 Ghana cedis. Model likelihood ratio $\chi^2 = 12.27$, $p = .344$; Nagelkerke $R^2 = .041$.

Table 6 should be interpreted cautiously. None of the predictors reached the conventional 0.05 level, although pain score approached significance. This does not weaken the study. Rather, it reinforces the value of the mixed methods design. Perceived choice could not be fully explained by sector, age, employment level, income, pain score or the presence of a formal dress code. The qualitative evidence suggests that choice was shaped by less visible factors, such as professional identity, peer judgement, customer expectations, confidence, fear of appearing informal and the normalisation of discomfort.

4.1.4 Awareness and Use of Occupational Health Protection Channels

The fourth objective examined awareness of occupational health protections and the extent to which women used available channels to address footwear related discomfort. Table 7 shows that only 141 respondents, representing



35.2 percent, were aware of the Labour Act 2003, Act 651. Awareness did not differ significantly across sectors. This finding is important because the study dealt with a workplace health issue, yet many respondents did not appear to have a clear legal frame for interpreting footwear discomfort as part of occupational safety.

Table 7

Awareness and Use of Occupational Health Protection Channels

Indicator	Legal (n = 91)	Banking (n = 138)	Education (n = 101)	Entrepreneurial (n = 70)	Total (N = 400)	χ^2	df	p
Aware of Labour Act 2003, Act 651	27, 29.7	55, 39.9	40, 39.6	19, 27.1	141, 35.2	5.38	3	.146
Discussed footwear discomfort with employer or HR	42, 46.2	62, 44.9	49, 48.5	36, 51.4	189, 47.2	0.9	3	.826
Requested accommodation for footwear	45, 49.5	72, 52.2	59, 58.4	37, 52.9	213, 53.2	1.68	3	.642
Supported ban on mandatory high heel requirements	34, 37.4	55, 39.9	33, 32.7	16, 22.9	138, 34.5	6.43	3	.092

Table 7 shows a clear distinction between legal awareness and practical action. Although only 35.2 percent were aware of the Labour Act, 47.2 percent had discussed footwear discomfort with an employer or human resource officer, and 53.2 percent had requested some form of accommodation. This suggests that women were not silent or passive. However, their responses were mostly informal and practical rather than legal. They sought relief through discussion, negotiation or accommodation, not through formal legal mobilisation. The low level of support for banning mandatory high heel requirements also requires careful interpretation. Only 34.5 percent supported such a ban. This should not be read as evidence that most women endorsed mandatory heels. It may reflect uncertainty about what a ban would mean, concern about professional appearance, fear of institutional resistance, or the internalisation of heels as part of respectable female presentation. The finding again supports the argument that footwear practices are shaped by both health concerns and identity expectations.

Because the dataset measured general awareness of the Labour Act 2003 (Act 651) rather than awareness or invocation of Section 118 specifically, the analysis makes no claim about the proportion of respondents who formally invoked Section 118. The defensible finding, based on Table 7, is that general awareness of the Labour Act was limited, while informal discussion and accommodation requests were more common. This finding has policy significance. Legal provisions may exist, but they will have limited effect if workers do not connect them to everyday ergonomic concerns or if employers treat footwear only as an appearance issue.

4.1.5 Entrepreneurial Responses and the Market Gap

The fifth objective explored entrepreneurial responses to the demand for healthier professional footwear. Because the present dataset did not contain detailed product-level variables such as footwear production, price range, product innovation or customer categories, the analysis focuses on the 70 entrepreneurial respondents and the qualitative market gap theme rather than on product-level claims.

Table 8

Footwear Experience among Entrepreneurial Respondents

Entrepreneurial sector indicator	Number	Percentage
Closed toe flats	35	50.00%
Low heels	5	7.10%
Medium heels	21	30.00%
High heels	9	12.90%
Heel height 5 cm or above	17	24.30%
Formal dress code or appearance expectation reported	44	62.90%
Employer or customer commented on footwear	41	58.60%
Any musculoskeletal pain	53	75.70%
Pain definitely or probably related to footwear	35	50.00%
Changed shoes at least occasionally	50	71.40%
Kept alternative footwear at workplace or business	36	51.40%
Wear heels by choice	29	41.40%
Negotiated comfortable footwear	27	38.60%



Footwear requirements are fair	34	48.60%
Support ban on mandatory high heel requirements	16	22.90%

Table 8 complicates the assumption that entrepreneurship automatically gives women full control over footwear. Half of the entrepreneurial respondents wore closed toe flats, suggesting greater flexibility than in banking and legal work. Yet 62.9 percent still reported a dress code or appearance expectation, and 58.6 percent reported comments on footwear. This means that market pressure can function like organisational pressure. A self-employed woman may not answer to a supervisor, but she may still dress to satisfy customers, build trust or project success. The pain burden among entrepreneurial respondents was also substantial. Although entrepreneurs reported lower pain prevalence than banking and legal respondents, 75.7 percent still reported at least one form of musculoskeletal pain, and 50.0 percent considered the pain definitely or probably related to footwear. This shows that footwear related discomfort was not limited to women in formal employment. Women who worked for themselves also negotiated the relationship between professional appearance, movement, customer expectations and comfort. The qualitative market gap theme helped to explain this finding.

Entrepreneurial participants observed that demand was increasing for professional footwear that combined style and comfort (Participant EN01, Entrepreneurial sector, 15 June 2026),

as one put it:

“women are tired of choosing between looking professional and being able to walk at the end of the day”.

This theme aligns with the high proportion of respondents who changed shoes or kept alternative footwear. Shoe changing is not merely a coping behaviour; it also signals unmet demand. Women appear to need shoes that can satisfy professional appearance norms while reducing pain and fatigue. These findings show that entrepreneurship may contribute to the solution, but it cannot solve the problem alone. Comfortable professional footwear must be affordable, available and accepted within workplace dress codes. If employers continue to define professionalism through painful footwear, or if ergonomic shoes remain expensive, women will continue to improvise through shoe changing, selective compliance and endurance. The market gap therefore has both commercial and occupational health implications.

4.2 Integrated Qualitative Themes

The interview component was used to deepen the interpretation of the survey findings. Table 9 presents the qualitative theme matrix from the 40 interview entries. The themes aligned clearly with the study objectives. Legal participants were linked mainly to dress code pressure, banking participants to health impacts, education participants to agency, and entrepreneurs to market gap.

Table 8

Integrated Qualitative Theme Matrix

Theme	Legal	Banking	Education	Entrepreneurial	Total
Dress code pressure	10	0	0	0	10
Health impacts	0	7	0	0	7
Agency	0	0	14	0	14
Market gap	0	0	0	9	9
Total	10	7	14	9	40

Table 9 strengthens the mixed methods interpretation. The banking health impact theme corresponded with the high prevalence of pain among banking respondents in Table 2. The legal dress code pressure theme helped explain why legal respondents reported substantial pain and strong professional appearance expectations. The education agency theme matched the relatively higher use of flats in Table 3 and the idea that heels were often worn for specific events rather than throughout routine work. The entrepreneurial market gap theme supported the evidence in Table 8 that self-employed women still faced appearance expectations and unmet footwear needs. The qualitative themes also show why the study needed a mixed methods design. The survey measured how many women experienced pain, pressure, accommodation seeking and legal awareness. The interviews explained how women made sense of these experiences. For instance, a woman may report that she wears heels by choice, but her interview account may show that the choice is shaped by client expectations, public image or fear of appearing less professional. This helps explain why the regression model in Table 6 had limited predictive power. Some aspects of agency are not easily captured by demographic or workplace variables alone.

4.3 Discussion

The findings show that occupational footwear expectations among professional women in Cape Coast and Sekondi Takoradi were linked with musculoskeletal pain, gendered professional identity, constrained agency, limited legal awareness and emerging market responses. The pain burden was high, especially in banking and legal work. Ankle



and foot pain was the most common specific complaint, and a large proportion of respondents associated their pain at least possibly with footwear. These findings support existing evidence (Colonna et al., 2024) that footwear design can influence posture, balance, joint loading and lower limb discomfort. The results also show that workplace footwear expectations operated through both formal and informal channels. Formal dress codes were common, but comments from employers, customers, clients and colleagues were equally important. This matters because informal enforcement can be difficult to challenge. A woman may not receive a written warning for wearing flats, but she may still feel pressure through remarks, exclusion, judgement or reduced professional visibility. This finding strengthens the study's theoretical contribution by showing how Social Role Theory (Eagly & Wood, 2012) applies to Ghanaian professional settings, where femininity, respectability and competence can become linked through appearance.

The study further shows that women's agency was real but constrained. Many respondents associated heels with confidence and professionalism, while many also reported pain, pressure and consideration of job change. This tension supports Cognitive Dissonance Theory (Festinger, 1957). Women may continue wearing uncomfortable footwear because they attach it to authority, confidence or professional acceptance. At the same time, the frequent use of coping strategies such as shoe changing and keeping alternative footwear shows that women were actively managing discomfort rather than simply accepting it. The legal findings point to a gap between workplace discomfort and rights consciousness. Awareness of the Labour Act was limited, yet practical accommodation seeking was fairly common. This suggests that many women attempted to solve footwear discomfort informally rather than through legal or regulatory channels. The implication is that legal protection alone is not enough. Workers need clearer information, employers need better guidance, and occupational health frameworks must recognise gradual ergonomic harm as a legitimate workplace concern.

Finally, the entrepreneurial findings show that the market has a role in addressing the problem, but market solutions must be supported by workplace and policy change. Entrepreneurs and self-employed women recognised the demand for professional footwear that combines style and comfort. Yet affordability, availability and workplace acceptance remain critical barriers. Without dress code reform and wider occupational health awareness, comfortable footwear may remain a private coping tool rather than a recognised part of safe and equitable work. Overall, the study contributes to knowledge by moving beyond the narrow question of whether high heels cause pain. It shows how footwear becomes an occupational health issue when pain is normalised, appearance is gendered, legal awareness is limited and women must improvise comfort within demanding professional norms. These findings support the need for flexible workplace footwear policies (Nguyen et al., 2021), recognition of safe professional alternatives to high heels, confidential accommodation systems, occupational health education and collaboration with local footwear entrepreneurs to make ergonomic professional footwear more accessible.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study set out to examine how occupational footwear expectations relate to musculoskeletal pain, perceived agency, legal awareness and entrepreneurial responses among professional women in Cape Coast and Sekondi Takoradi. The evidence shows that footwear-related musculoskeletal discomfort is widespread rather than exceptional. Four in five respondents (80.8 percent) reported at least one form of musculoskeletal pain, the burden was heaviest in the banking (90.6 percent) and legal (86.8 percent) sectors, and ankle and foot pain, the region most directly shaped by footwear, was the single most common complaint (56.8 percent). Half of the sample linked their pain definitely or probably to footwear, and mean pain scores differed significantly across sectors. Taken together, these findings indicate that occupational footwear is not a trivial matter of appearance but a measurable workplace health concern.

The study also shows that footwear expectations operate through both formal dress codes and informal social enforcement, that women's agency is real but exercised within narrow professional limits, and that coping strategies such as changing shoes and keeping alternative footwear are common precisely because prevailing expectations sit uneasily with bodily comfort. Legal awareness was limited: only 35.2 percent of respondents were aware of the Labour Act 2003 (Act 651), and women addressed discomfort mainly through informal discussion (47.2 percent) and accommodation requests (53.2 percent) rather than formal legal channels. Entrepreneurs were not exempt from appearance pressure, and their accounts point to an unmet market for affordable, comfortable professional footwear. Overall, occupational footwear expectations emerge as a preventable health concern shaped by organisational norms, gendered professional identity, limited legal mobilisation and unequal access to ergonomic footwear.

5.2 Recommendations

Several practical implications follow from these findings. Employers and professional bodies in the banking, legal and education sectors should review their dress codes so that safe, professional flat or low-heeled footwear is explicitly accepted, and should avoid any requirement, whether written or implied, that women wear high heels. Because



the banking and legal sectors combined the highest pain burden with the strongest appearance expectations, they warrant priority attention in any workplace footwear policy or intervention. Organisations should also establish confidential channels through which women can request footwear-related accommodation without fear of being judged unprofessional or facing informal sanction.

Beyond the individual workplace, occupational health education should reframe footwear-related discomfort as a legitimate occupational safety and health concern rather than a matter of personal style, and should raise awareness of the health and safety duties set out in Part XV of the Labour Act 2003 (Act 651). Labour officers, human resource practitioners and professional associations have a complementary role to play in issuing practical guidance that clarifies how cumulative ergonomic harm, including footwear-related musculoskeletal strain, falls within employers' existing health and safety obligations. Policymakers and business-support agencies should further support local entrepreneurs to design and supply affordable ergonomic professional footwear, for example through partnerships, training or targeted financing, so that healthier options become accessible to lower-income workers rather than remaining a private coping strategy. Finally, future research should build on these findings using longitudinal and clinically validated designs, larger entrepreneurial samples and direct measurement of footwear exposure, in order to move beyond cross-sectional association towards a clearer understanding of how occupational footwear expectations shape women's musculoskeletal health over time.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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