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Investigating Aromatherapy-Infused Fabrics for Emotional Wellness and Stress Reduction

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1 Introduction

1.1 Introduction

In today's changing world, emotional well-being is more important than ever. Stress, anxiety, and fatigue have become common aspects for which people are turning to effective techniques for developing mental health. Aromatic fabrics for textiles provide innovative methods by seamlessly blending the properties of essential oils incorporated into textile items and the functions of conventional textiles. These fabrics are infused with natural mood-enhancing oils such as lavender for relaxation, eucalyptus for concentration, or citrus for energy, these fabrics bring emotional equilibrium to the user throughout the day (Tillotson, 2023).

The versatility of aromatherapy fabrics enables them to be used for many purposes, including sleepwear for relaxing nights, activewear to energize exercises, and corporate uniforms to improve workplace concentration and spirit. The potential to enhance emotional health exists for every use case without disrupting daily routine.

Collaborations with mental health groups can further validate the efficacy of these fabrics, ensuring they address the emotional needs of people, and raising awareness of mental health. The innovative strategy that enables the therapeutic effect of aromatherapy coupled with state-of-the-art fabric technology opens the door to a healthier and balanced way of living (West, 2023). Wellness-based textiles present aromatherapy fabrics as the next step in the residential wellness textile space, providing each person comfortable access to emotional self-touch as part of daily life.

1.2 Background of the study

With an increasing prevalence of stress and mental health, challenges highlight the need for creative wellness solutions. Aromatherapy uses essential oils to restore an emotionally deficient state, including stress reduction, enhancing concentration, and boosting energy. In parallel, the evolution of textile technology has enabled the infusion of functional ingredients into textiles, thus creating the possibility of wearable wellness. Integrating aromatherapy fabrics are combined, it provides a natural solution for emotional well-being during the day (Damian, 2024). This work investigates the utility of aromatherapeutic-infused garments, with a particular interest in its use for sleepwear, activewear, and uniforms, and the possible role of cooperation with mental health charities to ensure maximum effect.

1.3 Problem Statement

Increased stress levels and mental health challenges have become pressing issues, impacting productivity, emotional stability, and overall quality of life. Traditional methods for managing emotional well-being (i.e., aromatherapy) are, generally too difficult or impractical for on-the-go lifestyles. Although there have been developments in bringing wellness-based apparel to market, there has been little effort to bring aromatherapy into the fabric to deliver seamless emotional support. This gap offers the possibility of pursuing smart, functional textiles for the effortless promotion of well-being (Mehta, 2023). The problem lies in developing effective, long-lasting aromatherapy-infused fabrics for many purposes ranging from sleepwear, activewear, and uniforms while addressing the technical and psychological requirements of the user.

1.4 Research Questions

1. How can essential oils be infused into fabrics?
2. What are the wellness benefits of aromatherapy-infused fabrics?
3. How can mental health collaborations enhance aromatherapy fabric effectiveness?
4. What challenges exist in developing durable aromatherapy-infused fabrics?

1.5 Research Objectives

1. To establish efficient techniques for impregnating fabrics with permanent essential oils.
2. To assess the psychological well-being effects of aromatherapy-impregnated fabrics (in use daily).
3. To influence partnerships with mental health agencies to enhance therapeutic effect.
4. To dissect and discuss the issues of developing functional, durable aromatherapy fabrics.
5. Identification of combine nutrient infusion with aromatherapy benefits to promote emotional well-being.

1.6 Significance of Study

This study fills the gap between wellness and textile technology, proposing new solutions to help foster emotional well-being in daily life. Integrating aromatherapy into fabrics provides a convenient and continuous approach to stress relief, energy boosting, and mental focus. Applications in sleepwear, activewear, and uniforms improve the quality of life in both a standard sense and in situations with greater demand (i.e., beyond wearables). Further, co-working with mental health NGOs helps foster awareness, ensuring these fabrics meet real-world emotional well-being needs effectively (Natarajan, 2022).

1.7 Limitations

The study faces several limitations, including the durability of aromatherapy infusion, as essential oils may lose effectiveness after repeated washing or prolonged use. Furthermore, there may be limitations to the use of essential oils due to potential allergic reactions or sensitivities to certain essential oils (Da Costa Lopes, 2022). The cost of developing and manufacturing aromatherapy-infused fabrics may also create difficulties, limiting access to some customers.

2 Literature Review

Infusing Fabrics with Essential Oils for Emotional Wellness

According to (Tillotson J. R., 2024) the diffusion of essential oils into fabrics can be considered an innovative strategy to enhance emotional comfort through everyday textiles. Therapeutic properties of essential oils, such as lavender, bergamot, and eucalyptus, are well known to provide stress relief, energy boost concentration ability, etc. Embed these oils into fabrics, users can experience continuous aromatherapy benefits without disrupting their daily routines. The controlled-release system is one of the most popular methods for workpieces (materials) with essential oils on textiles. In this technique, the oils are enclosed in micrometer shells, that release the aroma some time. By the use of a controlled release, lasting effects are maintained even when such application is repeated. Recent progress in nanotechnology continues to refine the process providing increased robustness and effectiveness of infused fabrics.

According to (Wang, 2023) the applications of aromatherapy fabrics are extensive. For example, sleepwear infused with relaxing oils such as lavender may lead to a greater level of relaxation and better sleep quality. Work-out apparel infused with energizing oils, like citrus, can make workouts more stimulating, and business attire imbued with stress-reducing scents, such as chamomile, can encourage concentration at work and decrease anxiety. Despite these advantages, challenges remain. The duration of the aromatherapy effect, possible allergenicity, and production cost necessitate further investigation and innovation (Hayes, 2024). Overcoming these barriers, aromatherapeutic-infused fabrics hold the promise to transform wearable wellness. Not only integrates function and emotions about emotional health but offers a simple approach to incorporate stress reduction and energy-enhancing activities into daily life, making them a potentially effective instrument for holistic well-being.

Applications in sleepwear, activewear, or corporate uniforms

According to (Göknur, 2025) aromatherapy has been a part of holistic health for a long time and essential oils are known to promote emotional well-being by acting on the emotional regulation system. Recent technologies in textile processing have allowed for the incorporation of aromatherapy benefits into textiles, thus offering a new path to emotional well-being via wearables. Research has emphasized the possibility of infusing aromatherapy into textiles, for relaxation, stress reduction, and mood improvement. A controlled-release system, on the mentioned fabrics, guarantees the prolonged and sustained delivery of therapeutic essential oils, such as lavender, chamomile, or citrus. For example, sleepwear impregnated with relaxing essential oils has shown promise in enhancing sleep quality and reducing insomnia symptomatology is a key factor of emotional wellbeing.

According to (Vivcharyuk, 2024) activewear infused with energizing scents, such as peppermint or eucalyptus, offers a dual advantage boosting physical performance while enhancing emotional resilience. This textile provides stress relief under demanding conditions, leading to a sensation of equilibrium and positive feelings. Corporate uniforms also offer another practical application, in the form of infused fabrics that promote the reduction of stress and improve the psychological climate of the workplace. Scents such as bergamot and ylang-ylang, have been associated with greater concentration and mood control, which can lead to a more conducive work environment. Although current works highlight the potential of aromatherapy fabrics, issues like durability of aroma, and biocompatibility still need to be addressed (Li, 2024). Furthermore, consumer acceptance and the environmental effects of textile production from these materials also need to be further investigated. Infusion of aromatherapy in sleepwear, activewear, and corporate wearables creates new avenues to encourage psychological well-being. Further research and technology development play a critical role in improving the efficacy and availability of these revolutionary textiles.

Collaborations with mental health organizations

According to (McCann, 2025) the integration of aromatherapy into textiles, aimed at enhancing emotional wellness has garnered significant interest in both the wellness and mental health sectors. With increasing awareness of mental health, organizations are looking for an innovative way to work on emotional well-being and collaboration between textile producers and mental health entities has started to show as a potentially useful method. This collaborative approach bridges the gap between scientific research, therapeutic practices, and the broader public's mental health needs. Aromatherapy fabrics containing essential oils whose mood-elevating and stress-relieving properties have been demonstrated can provide practical backing for people suffering from mental illnesses. Essential oils such as lavender, chamomile, and bergamot have been shown to help reduce anxiety, improve mood, and alleviate symptoms of depression (Xie, 2024). These textiles have the possibility of serving as a convenient, non-intrusive therapeutic device for patients who could benefit from adjunctive or alternative therapies in conjunction with conventional mental health treatment.

According to (Labhard, 2023) Collaboration between mental health groups and textile fabric innovators has been key in validating the confirmability of the effectiveness of aromatherapy textiles. Furthermore, mental health professionals have worked with textile designers to create targeted end-products for the use of those with vulnerable status, including trauma survivors or those in high-stress situations (Fuller, 2023). The potential of such collaborations is great, however, there are still some issues that need to be overcome. Trans-long-term effectiveness studies, permeated scent feasibility studies, and struggles with the unique aspects of different populations are studies and reports that are needed and must be developed and conducted. Also, close interaction with mental health experts is crucial so that these products are implemented in a manner that respects, both ethics and systematic clinical guidelines. Mentoring on behalf of mental health organizations is an effective medium to promote the use of aromatherapeutic fabrics for psychological well-being. By blending the ability of essential oils and the experience of mental health, these fabrics take a whole-of-being approach to managing states of mind and, for the person, provide a new, natural, route to emotional stability (O'Sullivan, 2024).

3 Methodology

The research is to investigate the possibility of adding essential oils to the fabric to improve one's emotions. The qualitative approach used in the study allows to present the participants' experience and perception.

3.1 Research Approach

The study is based on qualitative research as this approach is more appropriate to provide insights into participants' attitudes and feelings towards aromatherapy fabrics. Such an approach enables a detailed, flexible, and spontaneous overview of the participants' perceptions, emotions, and ideas. It focuses on grasping the multi-faceted yet non-tangible nature of emotional well-being that cannot be measured using figures or proposed in a single technique (Majumdar, 2022). In five categories, extracting the participants' narratives points out how they interpret the integration of essential oils into fabrics and its consequences on well-being.

3.2 Research Design

This study is informed by a phenomenological research design due to its appropriateness in contextualizing and comparing experiences and perceptions. Semi-structured interviews are used so that participants have the opportunity to speak as they wish while, at the same time, there is direction to be sure that all the areas of interest are covered. The interviews are carried out in the form of discussions, allowing the researcher to

go beyond the surface of participants' preferences and concerns regarding the concept of aromatherapy fabrics. It is flexible enough to examine numerous potential uses, such as nightwear, sportswear, and employer-wearing (Cernasev & Axon, 2023). Such a structure has advantages since the study is open to various views and practical recommendations.

3.3 Data Collection Methods

Information gathering is done by administering semi-structured interviews to five participants. In that case, purposive sampling will guarantee only those with some knowledge about aromatherapy, fabrics, or Wellness respond to the survey or complete a questionnaire. The interviews are semi-structured and take about 45 to 60 minutes per participant; the interview questions are open-ended. Using questions, participants' perceptions and usage of various essential oils are highlighted, including their preferences for emotional well-being, stress relieving or energizing aspects of fabrics, and their perspective of its usefulness in various settings (Saunders et al., 2023). All the interviews are conducted with the subject's permission, recorded via audio, and then transcribed literally to prevent the omission of any information. The analysis of personal experiences makes the study valuable for revealing the benefits and drawbacks of aromatherapy fabrics.

3.4 Data Analysis

The data gathered from the interviews is subjected to thematic analysis. This can be done systematically; when one codes data, one looks for trends and themes that occur regularly. The researcher starts the process using a structured approach to familiarize with the material contained in the transcripts. Codes are then given to meaningful data segments, which are categorized in terms of more general themes. These themes are the essence of understanding the participants' experiences and perceptions about the related concepts like emotionality, usability, choices of stress busters or energizers, etc. The thematic analysis allows the reader to see how the results fit and emerge from the participants' voices while simultaneously acknowledging similarities and variabilities within the data (Campbell et al., 2021). The last dimensions are combined to give a more logical approach toward understanding how aromatherapy fabrics can enhance emotional well-being and its uses.

3.5 Ethical Considerations

The principles of ethics are fundamental steps and components in any research to protect the participant's individuality, their rights, and their welfare. Before enrollment, the client is given written information on the study's purpose, processes, and potential utility. To ensure the participants have volunteered to take the studies, they are allowed to sign written informed consent. Informed consent is given to learners, who claim they are free to withdraw from the study at any time without repercussions (Roberts, Dowell, & Nie, 2019). This is done by ensuring that all personal identifiers are removed from all the transcripts and the final report. Security is maintained, and users can only access the details stored in databases or any other means.

4 Results and Discussion

4.1 Thematic Analysis

Theme 1: Perceptions of Fabrics Infused with Essential Oils for Emotional Wellness

The participants offered different views concerning aromatherapy fabrics for mental health and wellbeing. Participant 1 said they liked the idea because it offered versatility and helped them manage their stress and relax. Participant 2 took an impression of the concept as revolutionary and can easily be incorporated into the practice of Wellness. Participant 3 was eager but necessary to stress the durability of the aroma of the essential oils on fabrics. Participant 4 had an understanding of the idea but asked whether such types of

fragrances could be appropriate for people who have sensitive smells. Participant 5 had doubts about this aspect and pointed out that sometimes people can experience some skin rash or the fabric wears off quickly but agreed that many people find it valid for every next option for improving health.

Theme 2: Role of Aromatherapy Fabrics in Stress Relief and Energy Boosting

The participants pointed out how aromatherapy fabrics could impact emotional Wellness by highlighting stress relief and energy boosts. Participant 1 also believed that clothing with aromatherapy like lavender could significantly decrease anxiety during basic tasks. Participant 2 was concerned with energizing properties and stated that citrus scents, such as lemon or oranges, might help people feel more wakeful. Participant 3 said that these fabrics were functional both day and night and could meet different purposes of the clothes and the person wearing them. Participant 4 also echoed the economization aspect that fusion with everyday items could quickly make aromatherapy products, as it decreases the application of many dedicated aromatherapy products. Participant 5 was aware of this advantage but had questions about how the intensity of the smell could be regulated to the participant's liking.

Theme 3: Applicability of Aromatherapy Fabrics in Various Settings

People expressed different views about where aromatherapy fabrics may be of most use. For example, Participant 1 proposed sleepwear as the ideal application as it can help enhance the sleep experience due to aromatherapy. Participant 2 had a definite choice of activewear, saying that energizing scents could boost working out. Participant 3 used the corporate uniforms as a different case, considering stress-relieving scents could enhance productivity in the workplace. Participant 4 thought sleepwear and activewear are more appropriate as they are suited for relaxation or engagement in any activity. Participant 5 mentioned that all settings could be good, but the effectiveness could be variable depending on the personal interest and the context in which the fabrics are applied.

Theme 4: Preferred Essential Oils for Relaxation and Energy Enhancement

People disclosed the types of essential oils they attribute to relaxation and boosting energy levels. According to Participant 1, lavender and chamomile are used where one wants to relax, while peppermint is used where one wants to be energized. Participants preferred citrus scents like orange and lemon for energy, stress relief, etc., and eucalyptus was preferred. Participant 3 proposed the scent of sandalwood and bergamot for calming without damaging and rosemary as invigorating. Participant 4 was particular with scents such as jasmine, which is soothing, and ginger, which is stimulating. Participant 5 also suggested that balancing relaxing and invigorating blends is good, mainly according to circumstances.

Theme 5: Challenges and Concerns in Using Aromatherapy Fabrics

People asked about the possible difficulties in using aromatherapy fabrics. They included problems related to the washability of clothes and the degree to which their scents would linger through Essential oils. Participant 2 also stated that the adverse effects of the device are skin redness and allergic reactions, especially for people with sensitive skin. Participant 3 also added the point about individual preferences, stating that universal smells might not be ideal for everyone. Participant 4 identified a CSR issue related to the environment, saying that essential oils in the products used in services should come from sustainable sources and be produced sustainably. Participant 5 stressed the need to control scent strength because all the offered scents were more potent and could interfere with the participant's focus.

4.2 Discussion

The results of the present study emphasize the positive possibilities of aromatherapy fabrics as objects for improving emotional health and indicate some aspects to be considered for the actual use of such fabrics. Most participants had a positive perception of the concept, noting that it was new and engaging in the fact that it focused on creating Wellness in people's existence. However, they also listed concrete issues, including the duration of the fragrance, skin reactions, and ecological issues that require special consideration to gain wider acceptance. One such idea was that the aromatherapy fabrics could serve two functions: reducing stress and increasing energy. People understood the importance of not only using fabrics they need but also some associations, such as using lavender for sleepwear fabric or using citrus smell for a fabric needed for activities (Saunders et al., 2023). Such flexibility might help place aromatherapy fabrics more flexibly as the general atmosphere improves in various contexts, such as working places and fitness facilities. Personalities in essential oils are unique because individuals are unique in a product.

5 Conclusions and Recommendations

In conclusion, designing clothes using aromatherapy by incorporating essential oils into fabrics presents a novel approach to improving individuals' compliant and non-conforming emotional health in their garments. This study has highlighted such fabrics as holding strong possibilities for application in stress-reducing and energy-boosting apparel such as sleepwear, activewear, and corporate apparel. Despite participants having a positive impression of the concept's benefit, a few issues—fragrance endurance, skin irritation, and eco-friendliness—that some participants have proposed warrant consideration.

Recommendations

Optimizing Fabric Infusion Techniques: New infusion techniques must be produced in a way that guarantees a long-lasting scent, especially after washing the clothes. This can enhance the utility and application of aromatherapy fabrics as fashion accessories for daily use. Other findings made by the participants include that successful market retention strategies would be a cure.

Tailored Applications: Tailored Applications include stress-relieving sleepwear infusing lavender oils and energetic sportswear using citrus oils. These targeted applications match the participants' preferences and enhance practicality in the lifestyle mode's particular context.

Customization and Personalization: Perfume choice should allow customers to choose what they desire and avoid using fragrances that are sensitive to most people. This means expanding the target audience and making the product more versatile by letting users choose blends for what they are going to do or how they feel.

Collaborations with Mental Health Organizations: Collaborate with other mental health care professionals to ensure the authenticity of emotional Wellness and include aromatherapy fabrics in therapeutic care, increasing market adherence.

These recommendations present how aromatherapy fabrics can accommodate a rising wellness-conscious population without compromising on sustainability or excluding anyone.

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Appendix

Interview Questions

1. What are your thoughts on using fabrics infused with essential oils for emotional Wellness?
2. How can aromatherapy fabrics help relieve stress or boost energy in daily life?
3. In which settings do you see aromatherapy fabrics as most beneficial, such as sleepwear, activewear, or corporate uniforms?
4. What essential oil scents do you associate with relaxation or energy enhancement, and why?
5. What challenges or concerns do you foresee in using aromatherapy fabrics for emotional wellbeing?