
Polka Dots: A Timeless Design Element and Its Exploration with Sustainability

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ABSTRACT

This abstract presents an exploration of the evergreen glamour of polka dots as a design element and their potential role in advancing sustainability. It explores the synergy between the timeless charm of polka dots and the persistent need for sustainable design practices. The paper encompasses a comprehensive study of polka dots, including their various sizes and color combinations.

Furthermore, this research highlights how the enduring design element of polka dots can serve as a bridge between classic aesthetics and contemporary design trends. Data for this study has been collected from diverse sources, including surveys conducted among design enthusiasts including design students, faculties and fashion influencers. These surveys aim to uncover their perceptions and preferences regarding polka dots and other design elements that can seamlessly integrate with sustainable fibers and fashion.

The ultimate goal of this research is to provide valuable insights and guidance to fashion designers, retailers, and manufacturers interested in incorporating sustainability into their practices. By analyzing the data, the research has revealed that sustainable fabrics can harmonize effectively with polka dot patterns. This finding underscores the potential for polka dots to play a pivotal role in the sustainable fashion landscape, catering to both the traditional and contemporary tastes of consumers.

Keywords - Sustainable fashion element, Sustainable fashion element, Sustainable fashion element

1. Introduction

Polka dot is a pattern consisting of round circles regularly distributed on a fabric. As per oxford dictionary a polka dot design is one of many dots that together form a pattern, especially on cloth. Designs can be in various sizes and styles. The most classic ones are black and white, red and white, blue and white. Cotton, linen, polyester and silk are a typical choice for polka dot fabric patterns. Different fabrics structure was seen using polka dot design from the initial phase of development including chiffon, crepe, tulle, jersey knit, satin, denim, velvet, organza, lace suede fabrics (Adam Geezy, 2016; Jennifer Craik, 2009; Valerie Cumming, 2010). It's used for making retro-inspired and trendy dresses, skirts, blouses and shirts, summer dresses, nightgowns, kids wear, dresses, pants,

shirts, costumes, jumpsuits, scarves, jackets (Haramis, 2021; Valerie Cumming, 2010). Different size and design variation were observed in past fashion in the field of polka dots and different exploration were done. Figure 1 shows a different exploration with polka dots Fig 1 (Nicole Phelps, 2021; Stoloff & Cardenas, 2016; Valerie Steele, 1997) shows dot variation with respect to size as well as density (Hye-Won, 2007,) Fig (ii) shows polka dots in different figures. Mickey Mouse cartoon character popularized the use of polka dots in design figures printing elements(Tissura, 2019).

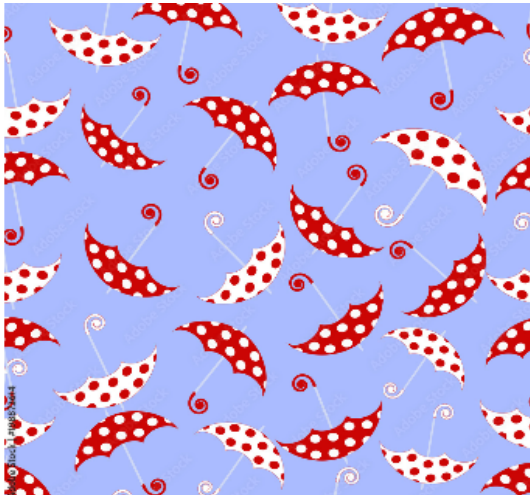


Fig 1.1. Polka dot Variation with size and density

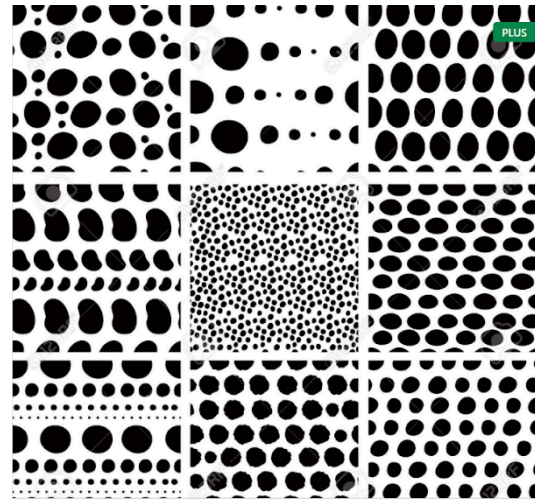


Fig 1.2. Variations of polka dots



Fig 1.3. fabric print design with color variation

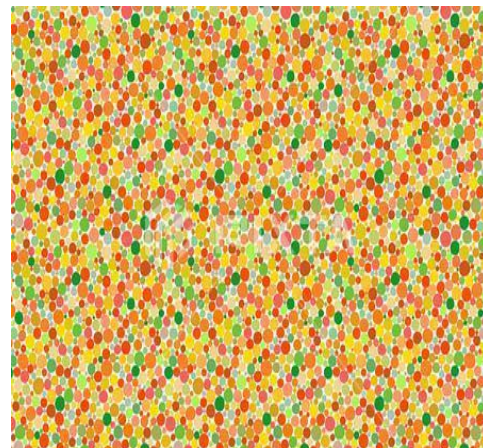


Fig 1.4 Use of polka dot in digital print

Fig 1.1,1.2, 1.3, and 1.4. Various exploration with polka dots as design element

1.1. SEMIOTICS: Origin and History of Polka Dot

The history of the polka dot pattern is rich and spans several centuries. **Origin of the Term:** The term "polka dot" is believed to have originated in the mid-19th century. It is thought to be derived from the dance called the "polka," which was popular in Europe at the time. The polka dance was known for its lively and energetic movements, and the term "polka dot" was used to describe the lively and vibrant nature of pattern 1. (Barbara Vinker, 2005; Fashion United, 2022; Valerie Steele, 1997)

1.1.1 Early Appearances: Polka dots first appeared in fashion during the mid-19th century in Europe. They were initially associated with lower-class clothing but gained popularity among various social classes over time



Fig 2(a)



Fig 2(b)

Fig- 2 (a) early picture of Polka Dot clothing appeared at 1865 as shown at as Gilt framed tintype portrait of a woman in a polka-dot blouse

Fig 2 (b) At 1935, Alice Faye the singer and actress wore a Polka Dot blouse in movie studio portrait (Kawamura, 2023; Yayoi Kusama, n.d.)

1.1.2 Popularity in the 20th Century: Polka dots became particularly popular in the 1920s and 1930s and were widely used in women's dresses and accessories. They were associated with a sense of fun and playfulness during this era.

1.1.3 Film and Celebrity Influence: The 1940s and 1950s saw polka dots featured prominently in Hollywood films, worn by iconic actresses like Marilyn Monroe and Elizabeth Taylor. This helped cement the pattern's status as a symbol of glamour and femininity.

1.1.4 Polka Dots in Pop Culture: Polka dots continued to be a fashion staple throughout the 20th century and were embraced by various subcultures, from rock 'n' roll to punk and beyond. **Polka Dots in Contemporary Fashion:** Polka dots have never gone out of style and continue to be a popular pattern in modern fashion. Designers regularly incorporate polka dots into their collections, keeping

the pattern fresh and relevant. **Artistic Expressions:** Beyond fashion, polka dots have been used as a motif in various forms of art. Japanese artist Yayoi Kusama, for instance, is famous for her use of polka dots in her artwork and installations. **Cultural Significance:** Polka dots have cultural significance in different parts of the world. In some cultures, they are associated with celebration and festivity.

1.2. EVOLUTION OF POLKA DOT

1.2.1 Polka Dots in Vintage and Retro Fashion: Polka dots have a strong association with vintage and retro fashion, particularly from the 1950s and 1960s. They were commonly used in dresses, blouses, and skirts during this era (Bianca, 2008).

1.2.2 Polka Dots as a Statement Pattern: Polka dots are often used as statement patterns in fashion, adding visual interest and playfulness to clothing items. They can be used on both casual and formal wear, making them versatile (Valerie Steele, 1997).

1.2.3 Polka Dots in Contemporary Fashion: Contemporary fashion designers continue to incorporate polka dots into their collections. Polka dot patterns can be found in dresses, blouses, jumpsuits, and even accessories like handbags and shoes (Haramis, 2021).

1.2.4 Polka Dots in High Fashion: High fashion designers have also embraced polka dots. They use them to create unique and bold runway looks, demonstrating the versatility of this classic pattern (Kawamura, 2023).

1.2.5 Polka Dots as a Trend: Polka dots have often been associated with femininity and girlishness. They are used in women's clothing to convey a sense of whimsy and elegance. Polka dots periodically experience a resurgence in popularity as a fashion trend. This cyclic pattern reflects the enduring appeal (Stoloff & Cardenas, 2016).

1.2.6 Polka Dots in Street Style: Polka dots are not limited to high fashion; they are also a common motif in street style fashion. Street fashion enthusiasts often incorporate polka dot pieces into their eclectic looks (Barbara vinker, 2005).

1.3. NOTED DESIGNERS AND ARTISTS WORK

Many fashion designers have incorporated polka dots into their collections over the years, either as a signature element or as a recurring motif. Here are a few notable designers who have used polka dots in their collections:

1.3.1 Yayoi Kusama: Yayoi Kusama, a Japanese artist and designer, is perhaps one of the most famous proponents of polka dots in the art and fashion world. Her avant-garde artwork often features polka dots, and she has collaborated with fashion brands, including Louis Vuitton, to create polka dot-themed collections. (Yayoi Kusama, n.d.)

1.3.2 Marc Jacobs: American fashion designer Marc Jacobs has frequently incorporated polka dots into his designs. He has used them in dresses, accessories, and even in collaborations with brands like Disney. (Haramis, 2021)

1.3.3 Comme des Garçons (Rei Kawakubo): Rei Kawakubo, the founder of the fashion brand Comme des Garçons, has used polka dots in her avant-garde and unconventional designs. Her collections often feature unexpected placements and sizes of polka dots. (Kawamura, 2023)

1.3.4 Carolina Herrera: Carolina Herrera, a renowned fashion designer, has incorporated polka dots into her elegant and classic designs. Her polka dot dresses and gowns are known for their timeless appeal. (Stoloff & Cardenas, 2016)

1.3.5 Dolce & Gabbana: The Italian fashion house Dolce & Gabbana has used polka dots in various collections, often giving them a playful and romantic twist. Polka dots have been featured on dresses, blouses, and accessories. (Nicole Phelps, 2021)

1.3.6 BETSEY JOHNSON: American designer Betsey Johnson is known for her bold and whimsical designs, which frequently include polka dots. Her creations are often characterized by their youthful and colorful use of the pattern. (Bianca, 2008)

1.3.7 Michael Kors: American designer Michael Kors has used polka dots in his collections, offering a contemporary take on classic styles. Polka dots have appeared on everything from dresses to handbags in his designs. (Nicole Phelps, 2019)

1.3.8 Louis Vuitton: The luxury brand Louis Vuitton has featured polka dots in various collections, including collaborations with artists like Yayoi Kusama. Their iconic monogram canvas also includes subtle polka dot patterns. (Ware & Dickson, 2023)

1.3.9 Moschino: Moschino, known for its playful and eccentric designs, has used polka dots in many collections. The brand often combines polka dots with other bold patterns and graphics. (Fashion UNITED, 2022)

1.3.10 Kate Spade New York: The American fashion brand Kate Spade New York is known for its use of polka dots in handbags, accessories, and clothing. Their designs often feature colorful and cheerful polka dot patterns.

Apart from the international designers all brands and the local designers around the world used Polka dot in their collection at some point in time.

All the references show the use of polka dots in different periods with very little or more variation. Its use in different garments ranges from kids to adults. The use of polka dots is reported from the early fashion of the 19th century to the present. The significant presence of polka dots made it a timeless design element for textile design.

1.4. Concept of sustainability in fashion

In the field of fashion sustainability can be achieved by material elements and principle of design. The sustainable material includes natural and recyclable fibers. These materials make fashion sustainable either by their quality of biodegradability or by recycling the old garment into new products. Basic design elements are line, colors, texture, form, shape and dots. While the principle includes balance, proportion, harmony etc. Basic designs created by line and dot are observed to be some of the sustainable design elements. Use of check, stripes and polka dot is reported from early 19th century fashion to contemporary fashion.

1.5. Research Gap

There is a lack of research that explores the role of specific design elements, such as polka dots, in the context of sustainable fashion. Investigating whether polka dot patterns, which have endured over centuries, have the potential to promote slow fashion practices would provide valuable insights into the intersection of design aesthetics and sustainability. Such research could elucidate the extent to which certain classic designs may encourage consumers to buy less and invest in long-lasting, versatile clothing items. At the same time, consumers feel connected to the current trend. Little research exists on the psychological and cultural implications of polka dot patterns in fashion. Exploring whether polka dot designs are associated with a perception of affluence and opulence would be a valuable area of inquiry. Investigating whether polka dots are perceived as "rich" and whether this perception impacts consumer choices can provide insights into the marketing and consumer behavior aspects of sustainable fashion.

1.6. Aim of research

To determine the timelessness and enduring appeal of polka dots as a design element in the fashion industry. It is to investigate consumer perceptions, preferences, and attitudes regarding the aesthetics, colors, sizes, and their connection with sustainability in relation to polka dot patterns.

2. The Proposed Method

The research adopted an approach emphasizing quantitative research methods to comprehensively explore the glamor of polka dots as a design element and their potential role in advancing sustainability.

Data Collection for this paper has been done through a. Surveys: A structured survey designed and conducted using google forms over that 51 design enthusiasts responded including Fashion students and teachers and fashion influencers. On the basis of random sampling method of different age groups, gender and from different geographical locations to gather data on their perceptions and preferences regarding polka dots and their integration with sustainable fibers and fashion collected. The survey includes questions related to the appeal of polka dots, preferences for size and color combinations, and opinions on sustainable fashion.

Quantitative Analysis: Quantitative data from surveys has been analyzed thematically to identify recurring patterns and themes related to design preferences, sustainability, and the appeal of polka dots in the eyes of consumers.

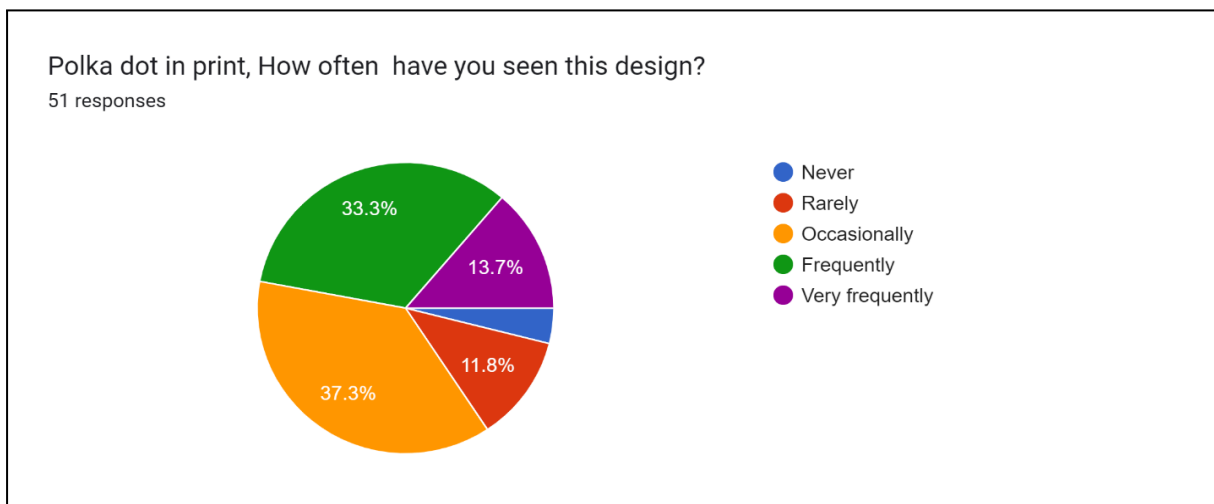
3. Results and Discussion

In this survey, a total of 51 participants took part, comprising 36 (70%) females and 15 (30%) males. They belong to various age brackets, with 65% falling in the 19 to 25 age group, 3% in the 26 to 30 age group, 22% in the 31 to 35 age range, 6% in the 36 to 40 age group, and 4% aged 41 and above. Participants hail from diverse geographical locations, with 13.7% residing in villages, 27.5% in semi-urban areas, and 58.8% in urban settings. Occupation-wise, 42.2% of respondents are college students, 29.4% hold graduate degrees, 25.5% have master's degrees, and 3.9% have doctorates. Among all participants, 39.2% are employed, 58.8% are college students, and 2% are involved in business activities.

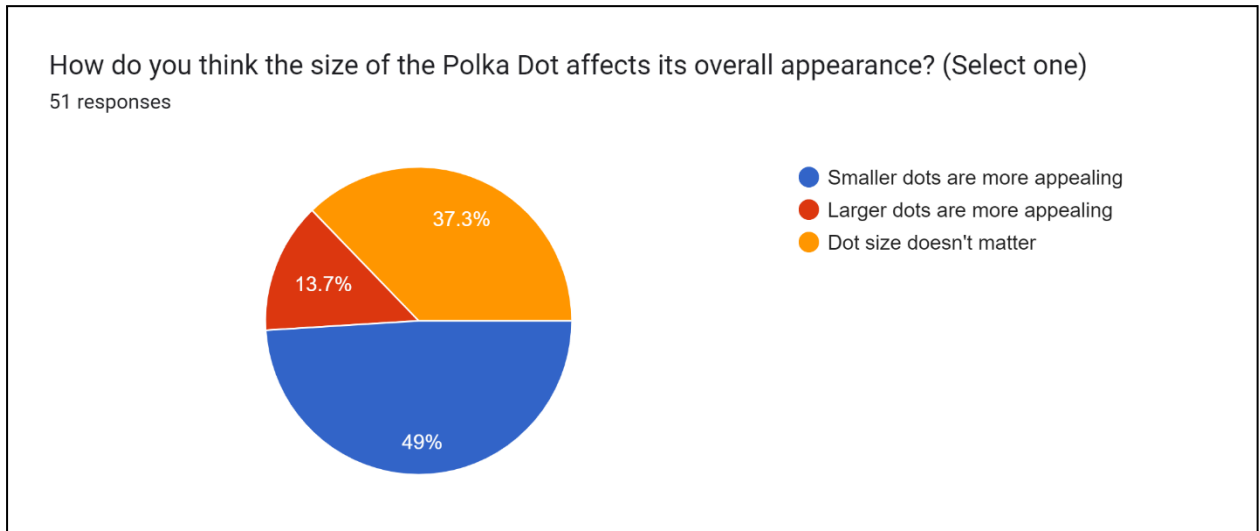
3.1 Quantitative Analysis

15 questions were framed for quantitative analysis of this research. 1st question was framed as "How often have you encountered Polka Dot design?" (a) 33% of respondents reported frequent sightings, 37.3% indicated occasional encounters, 13.7% mentioned very frequent observations, 11.8% claimed rare sightings and 3.9% stated they have never seen it. Regarding the query on the impact of Polka Dot size on its appearance (b) 49% of respondents preferred smaller dots, 13.7% favored larger dots and 37.3% found the dot size inconsequential to their preference.

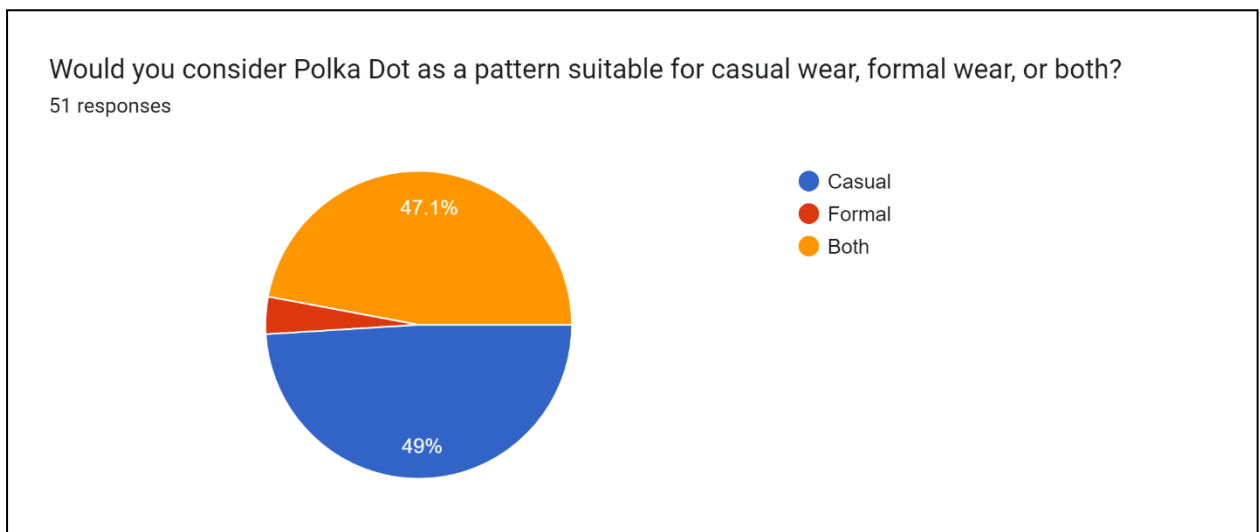
Upon analyzing the data, it has been understood that people are more likely to wear a garment or accessories a number of times if it has Polka dot. Considering the Polka Dot as a classical element which will never become fad and wide acceptance among all age groups and era makes it sustainable.



(a) Fig 3. Showing data analysis for questionnaire

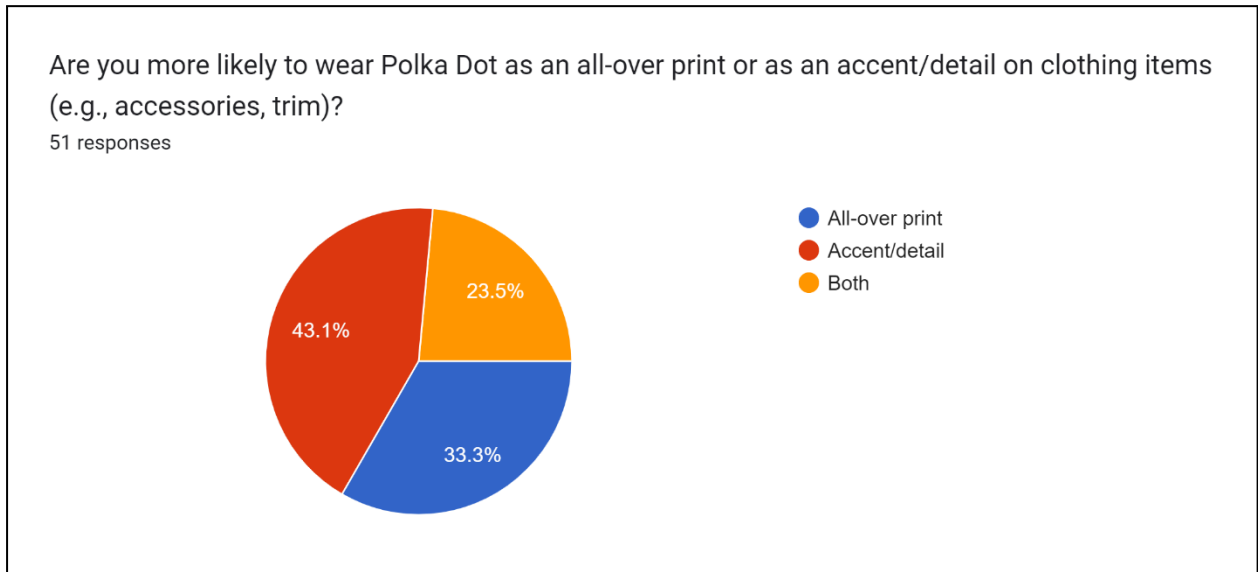


(b) Fig 4. Showing data analysis for questionnaire



(c)

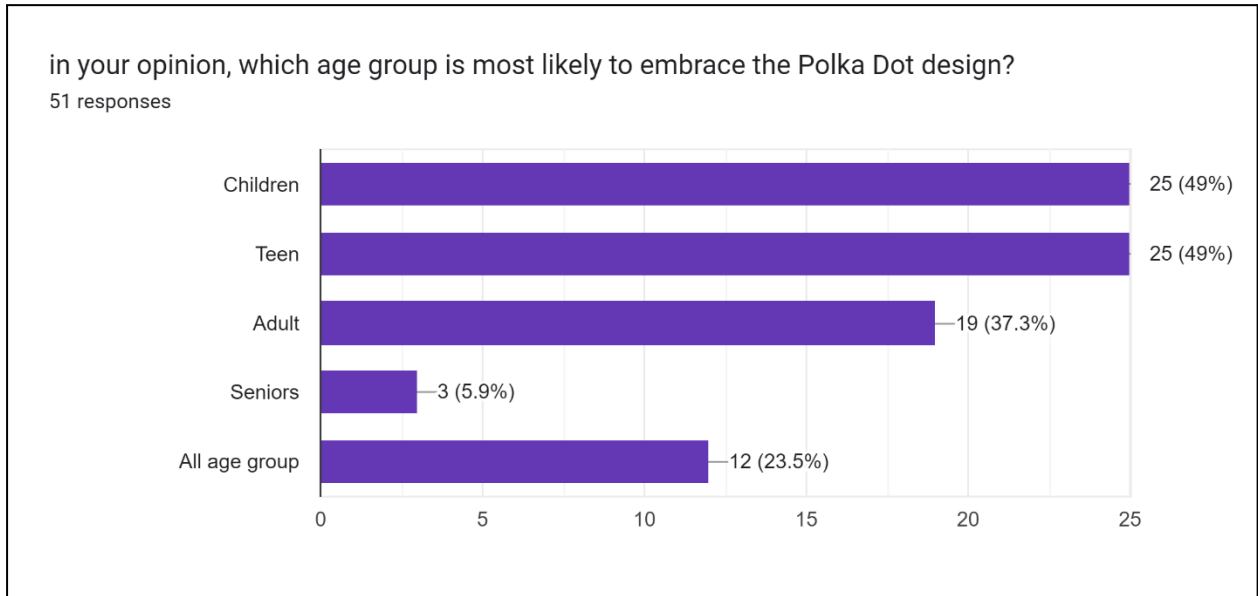
Fig 5. Showing data analysis for questionnaire



(d) Fig 6. Showing data analysis for questionnaire

When asked if Polka Dot is suitable for casual wear, formal wear, or both (c) 49% considered it suitable for casual wear, 3.9% voted for formal wear and 47.1% believed it was appropriate for both casual and formal settings. Regarding the preference for all-over print or as an accent/detail on clothing items (d) 33.3% opted for an all-over print, 43.2% preferred Polka Dot prints in accessories, trims, and details whereas 23.5% opted for both

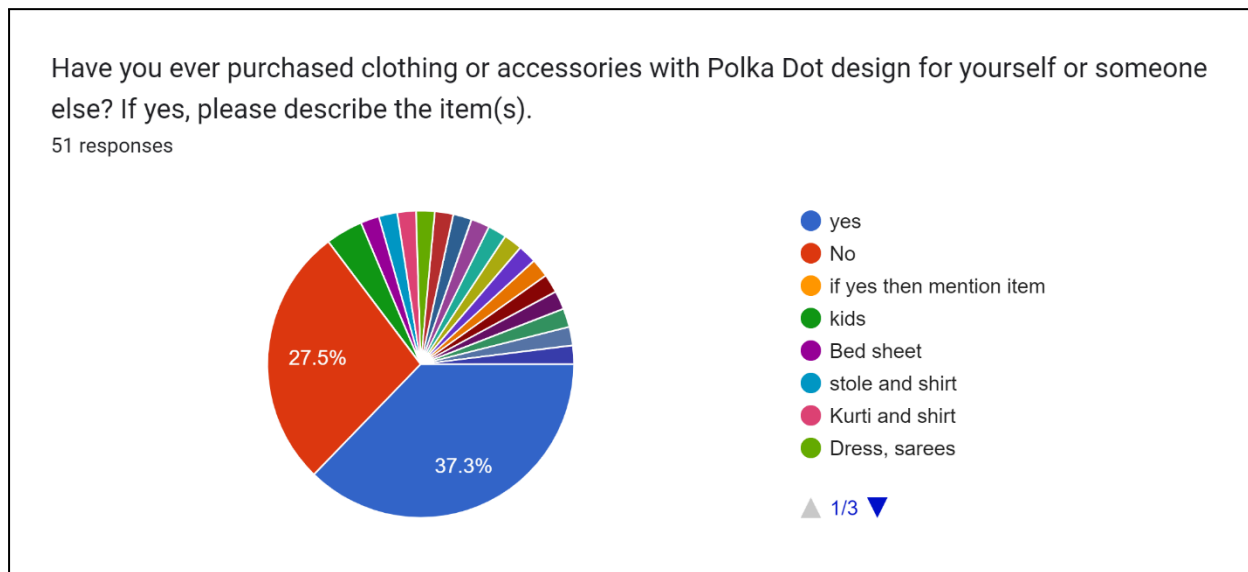
Responding to the question about the age group most likely to embrace Polka Dot design (e) 49% believed children would embrace it, 49% thought teens would, 37.3% considered adults, 5.9% mentioned seniors and 23.5% believed it would appeal to all age groups. In this question multiple answering were allowed



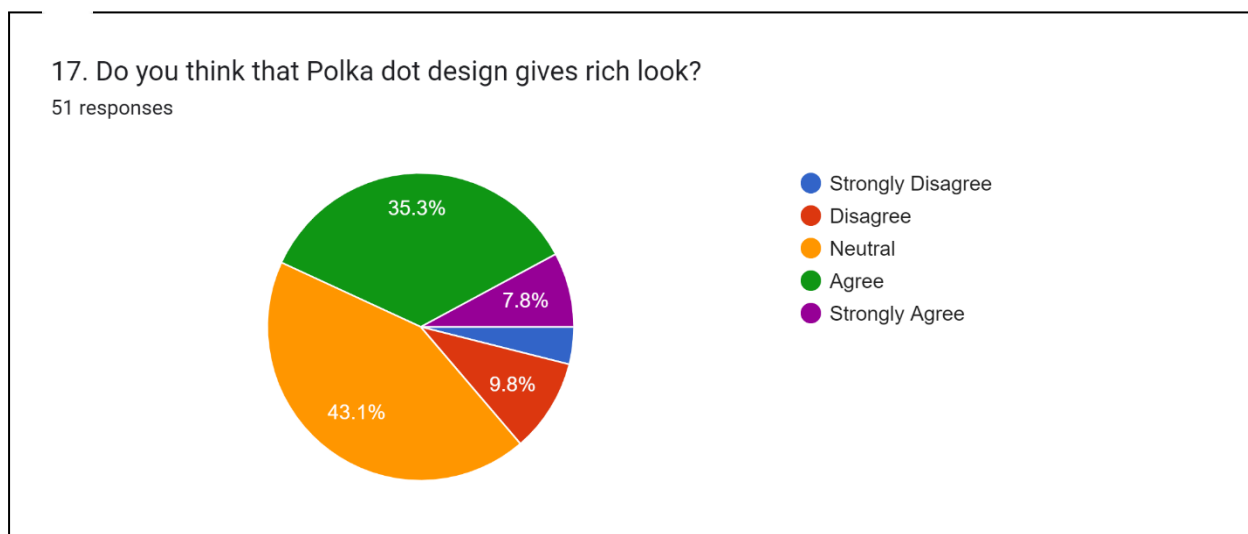
(e) Fig 7. Showing data analysis for questionnaire

When queried about purchasing clothing or accessories with Polka Dot design (f) 83% confirmed they had made such purchases and 17% had never bought Polka Dot items. They also listed a diverse range of products, including bed sheets, stoles, shirts, Kurtis, dresses, sarees, hair bands, scrunchies, bags, tops, skirts, and crop tops.

While replying to question whether polka dots give rich look (g) 7.8% responded were strongly agree and 35.3% were agree and 43.1% shown their neutral behavior

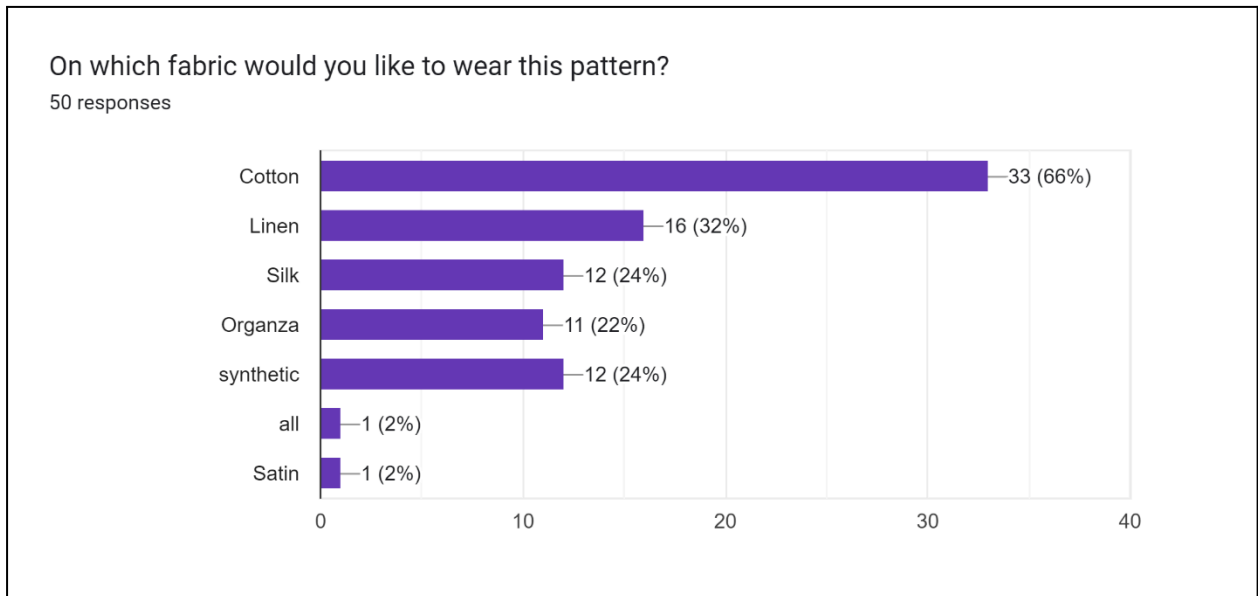


(f) Fig 8. Showing data analysis for questionnaire



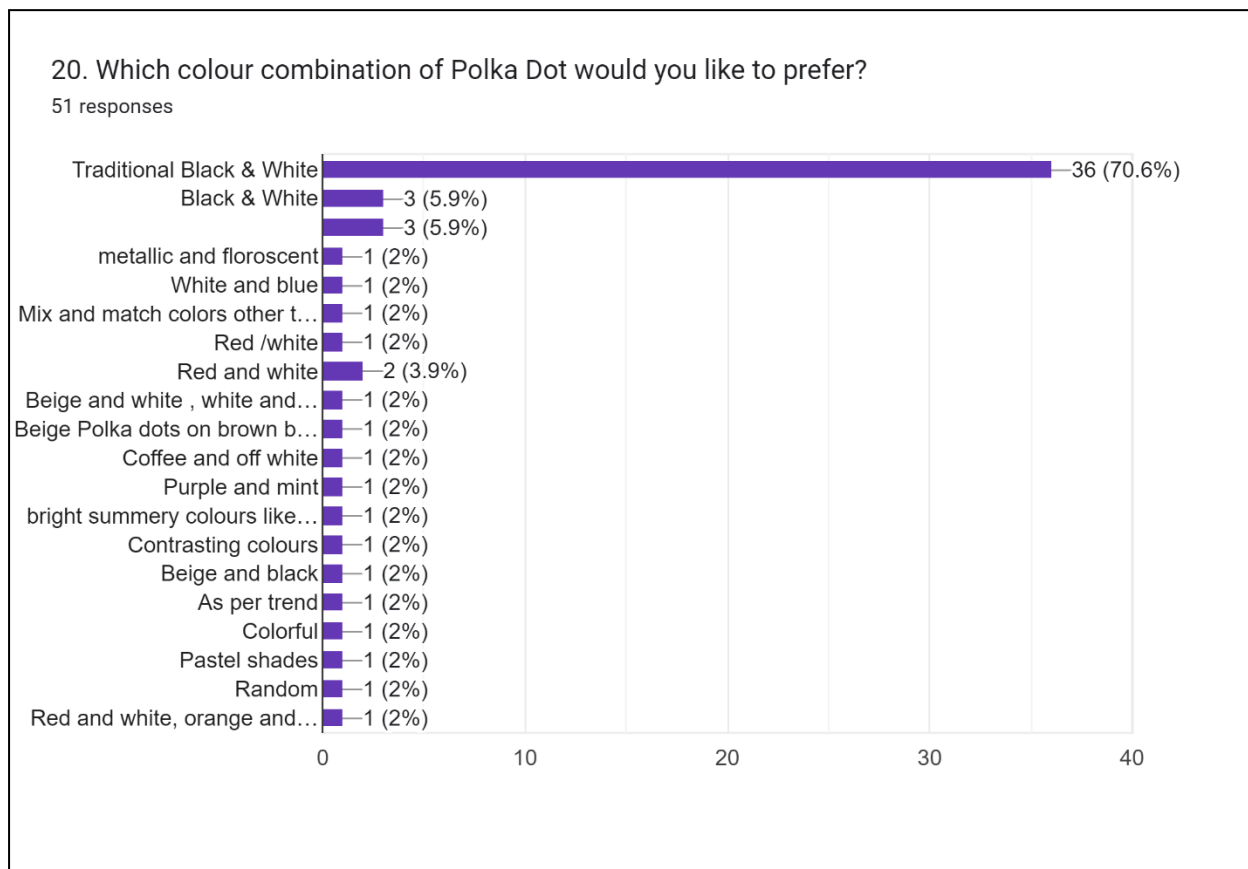
(g) Fig 9. Showing data analysis for questionnaire

When queried about fabric preferences for wearing the pattern (h)respondents provided a wide range of choices, with 66% favoring cotton, 32% opting for linen, 24% selecting silk, 22% indicating a preference for organza, 24% favoring synthetic fabrics, and 2% each showing a preference for satin and all fabric types.



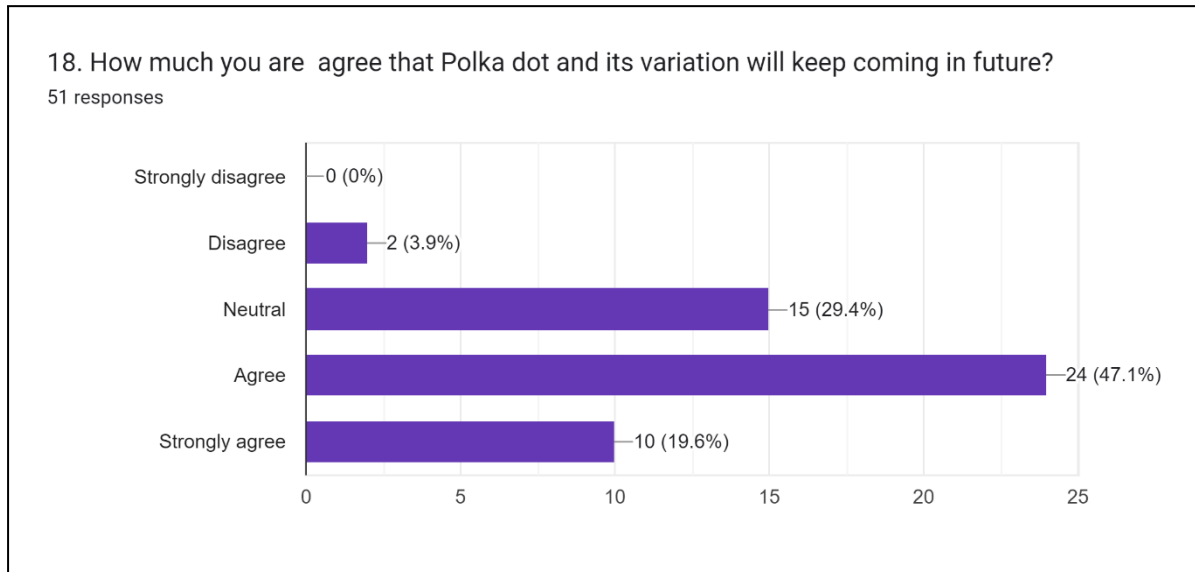
(h) **Fig 10.** Showing data analysis for questionnaire

In terms of color preferences (i) , a substantial 70% favored the traditional Black & White combination, while the remaining 30% expressed various preferences, including metallic, pastel, red & black, and other contrasting colors.



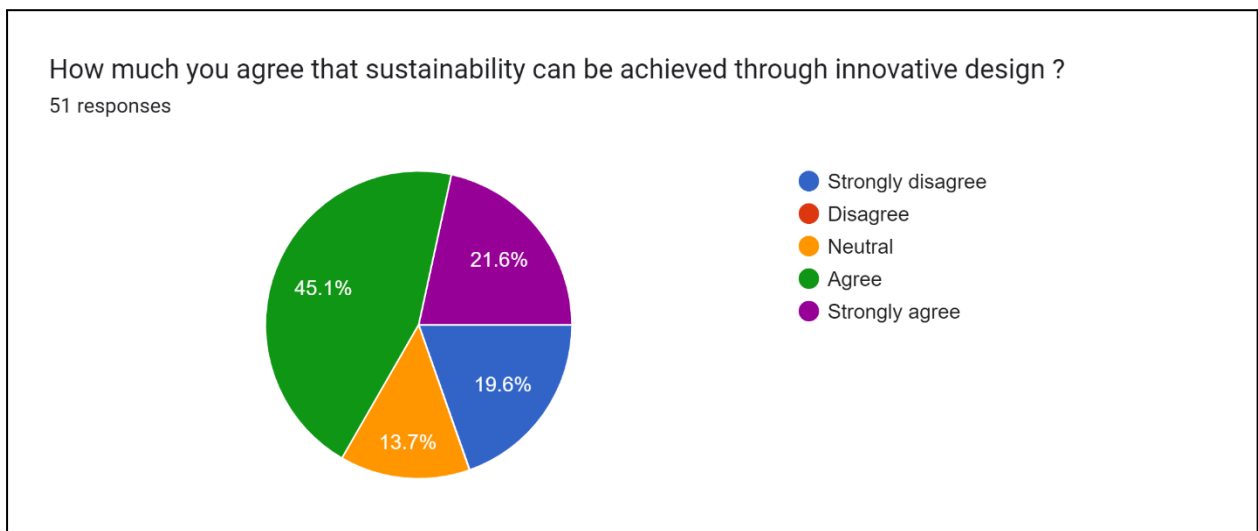
(i) Fig 11. Showing data analysis for questionnaire

In the context of Polka Dot's enduring presence in fashion (j), 47.1% strongly agreed, 19.6% agreed, 29.4% were neutral, and 3.9% disagreed, with no strong disagreement expressed.



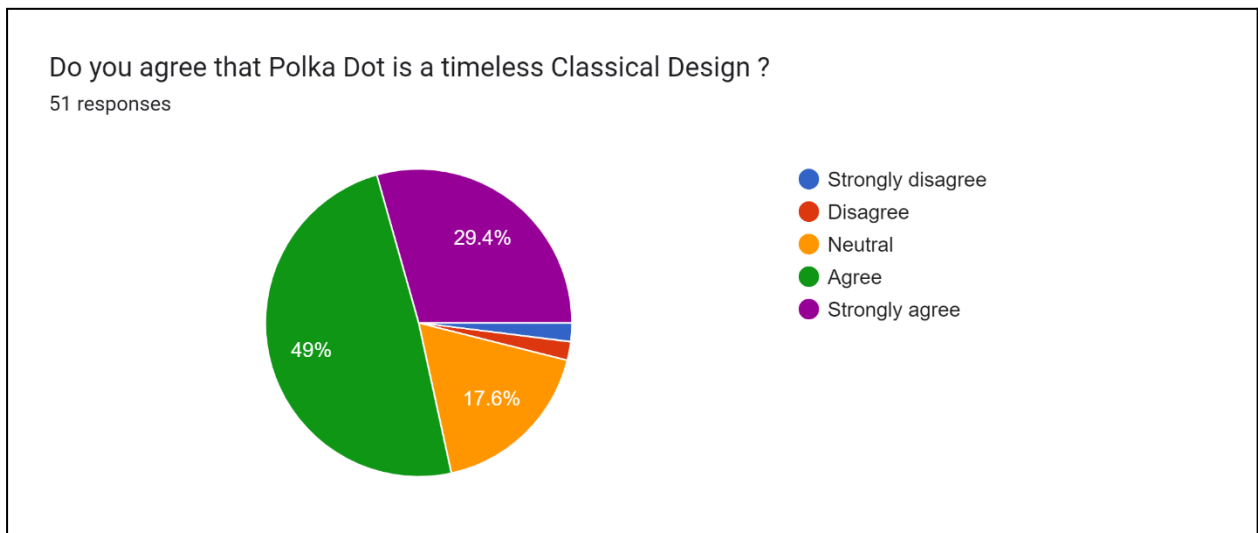
(j) Fig 12. Showing data analysis for questionnaire

When it were enquired whether sustainability can be achieved through innovative design (k) 21.6 % people were strongly agreeing while 45.1% were agree 13.7% people shown their neutral response and 19.6% people were disagree



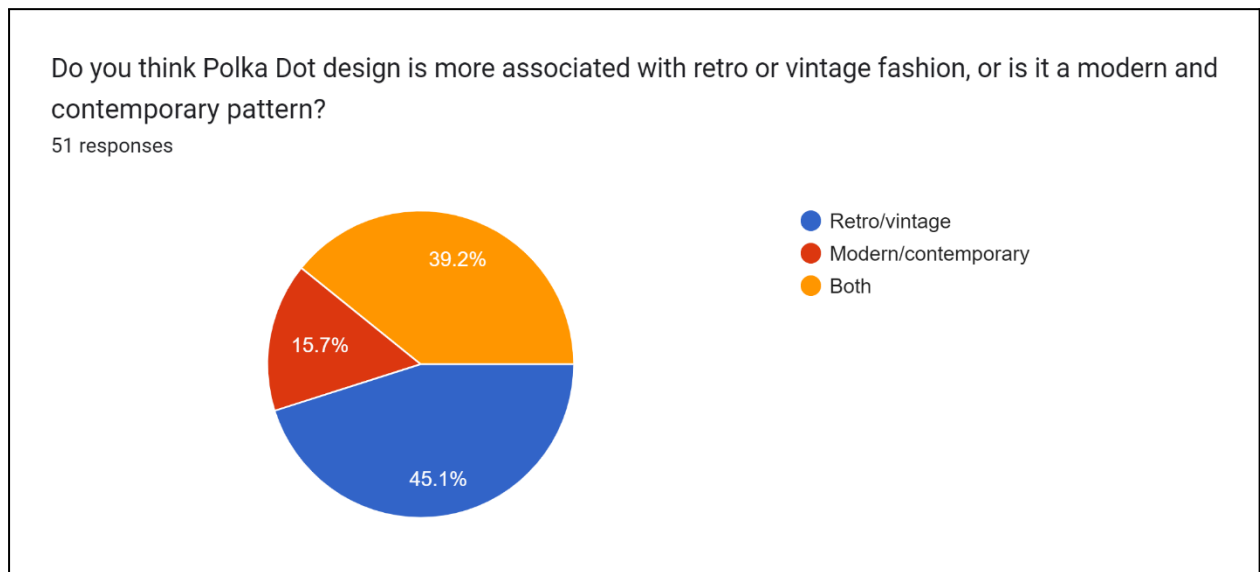
(k) Fig 13. Showing data analysis for questionnaire

While replying to question whether polka dot is sustainable timeless classical element (l) 29.4 % people were strongly agree 49% were agree 17.6 were neutral and only 4% people were disagree



(l) Fig 14. Showing data analysis for questionnaire

While replying to question Polka Dot design is more associated with retro or vintage fashion, or is it a modern and contemporary pattern (m) ,45.1 % people replied it is more associated with retro and vintage while 39.2% people replied it is more associated with modern and contemporary fashion while 15.7 % considered it as both. This response shows that Polka dot is a timeless element and which will sustain in the future.



(m) Fig 15. Showing data analysis for questionnaire

4. Conclusion

Survey examines perceptions of Polka Dot's timeless classical appeal, with a substantial majority embracing it as a design that transcends time. The sustainability aspect also resonated with participants, as a significant percentage recognized Polka Dot as a potential sustainable design element. Remarkably, Polka Dot design has garnered acceptance across all gender categories, spanning men, women, and children. From a fashion forecasting perspective, the majority of respondents foresee its enduring presence in the future. This design stands as a testament to its timeless and classical nature, transcending gender boundaries. It enjoys recognition and popularity across diverse geographical backgrounds, including rural, semi-urban, and urban areas. The data also revealed a noteworthy trend: a majority of participants have actively purchased clothing and accessories featuring Polka Dot designs. This underscores the versatility of Polka Dot in various fashion forms. Polka Dot design in fashion, with responses varying from those who associate it with retro or vintage styles to others who see it as a modern and contemporary pattern. Impressively, a substantial percentage found Polka Dots to bridge both fashion eras. As polka dot designs were found suitable for most types of categories ranging from kid wear to adult wear and it were found in all periods in fashion therefore repeat use is possible also garments can be redesigned and reused and hence promote sustainability. The data indicates that a significant portion of the population holds the belief that Polka Dot design imparts an elegant or luxurious aesthetic and can harmonize effectively with sustainable materials and fabrics. The timelessness and the consumer preference towards the polka dot design elements suggest that consumers are not fed off, they consider it as a classic which make it sustainable. If we use this design element on the sustainable fabrics and related materials,

consumers will love to wear the products for longer duration which ultimately increases the lifespan and leads to the sustainable practice.

In conclusion, Polka dot is a classical timeless sustainable design element, remaining popular worldwide. It is anticipated to continue its presence in the fashion landscape, youth and all design enthusiasts will continue to prefer it.

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