

A Study on Influencing Factors of South Korean Consumers' Attitude and Purchase Intention for Sustainable Textile Fibers: Focusing on the Extended Theory of Planned Behavior (ETPB)

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I. Introduction

With the acceleration of digital transformation and the COVID-19 crisis, the importance of sustainability has again come to the fore. According to the United Nations, however, the textile and clothing industry is still the second most notorious industries on the planet for contributing to as much as 8% of all greenhouse gas emissions, 20% of global wastewater, and 35% of microplastic pollution (Hohmann et al., 2023). There is therefore, a clear and urgent need for a shift towards a more circular economy based on the innovation of the entire fashion supply chain.

In order to reduce its detrimental impact on societies and the environment as well as to meet increasingly high market demand, the global fashion industry has been actively embracing and investing in sustainability. For instance, pioneering fashion brands like ZARA, H&M, and Stella McCartney are promoting the use of conscious fiber alternatives, aiming to minimize harm caused by the manufacturing process, the characteristics of the fibers, or the overall environmental footprint. Followingly, the global market for sustainable textiles is estimated to grow from 48.9 billion in 2021 to 101.9 billion USD by 2030, which will be roughly 7.2% of the entire textile industry (Yoon & Park, 2020).

A recent survey of 292 South Korean textile companies, however, revealed that more than 80% of them are facing challenges regarding the sustainability transition process, such as shortage of processing facilities and qualified professional or technical personnel, lack of government-level support, and notably, consumer biases toward sustainable materials (Yoon & Park, 2020). That is, whereas consumer sentiment on sustainability in fashion has deepened, there is still a gap between their attitude, intention, and behavior with regards to sustainable textile products (ElHaffar et al., 2020; Rausch & Kopplin, 2021). To narrow this gap, the influencing factors on consumers' sustainable textile consumption should be thoroughly identified and understood in the context of Korea.

This study thus aims to: 1) investigate the major drivers and barriers and their relative importance in shaping Korean consumers' preferences for sustainable textile fibers; and 2) empirically examine the factors influencing Korean consumers' sustainable textile fiber consumption attitudes and intentions based on the Extended Theory of Planned Behavior (ETPB).

II. Research Model and Hypotheses

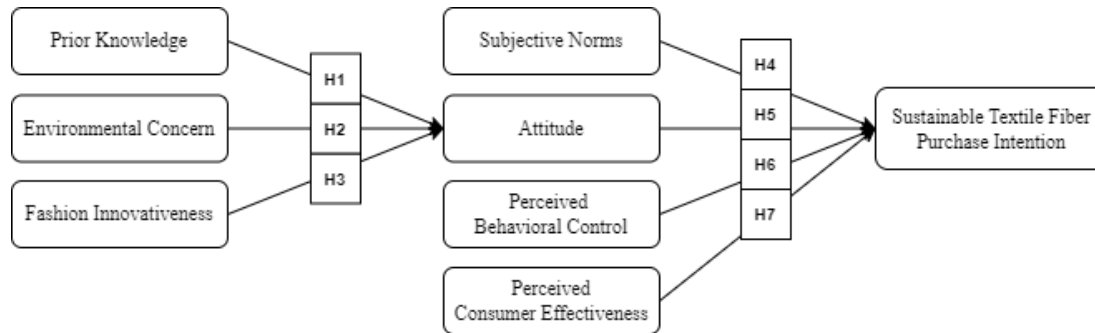


Figure 1. Research Model

III. Methodology

An online survey was conducted in September, 2023 with a total of 200 participants aged 18 to 59 (50% Male; $M=39.33$, $SD=11.16$) who were recruited through Macromill Embrain, a professional research company based in Seoul, Korea. The questionnaire consisted of three parts: demographic characteristics; opinions on 4 different novel textile fibers that have been developed and commercialized by actual brands (Demetra by Gucci, ECONYL® by Prada, Sylvania by Hermes, Orange Fiber by Salvatore Ferragamo); and 33 reflective type indicators under 8 constructs for estimating the proposed research model, measured with a 5-point Likert Scale (1="strongly disagree", 5="strongly agree"). The data collected were analyzed by using IBM SPSS Statistics 26 and Smart PLS 4.0 software.

IV. Results

Firstly, preferences analysis results showed that consumer preferences were the highest for Demetra (74.5%), followed by ECONYL® (70.5%), Orange Fiber (69.5%), and Sylvia (63%). It turned out that consumers were willing to purchase the sustainable textile fibers primarily for environmental protection ($M=4.34$, $SD=0.56$), or for their (own or family's) health ($M=3.91$, $SD=0.66$). Other reasons included trustworthiness ($M=3.62$, $SD=0.67$), features distinct from other materials ($M=3.56$, $SD=0.79$), value as gifts ($M=3.44$, $SD=0.78$), and exclusivity ($M=3.25$, $SD=0.82$) of the materials or the products. On the other hand, consumers were not willing to purchase the sustainable textile fibers due to price ($M=4.35$, $SD=0.72$), difficulty in management ($M=3.59$, $SD=0.80$), brand ($M=3.14$, $SD=0.90$), insufficient information or knowledge ($M=3.06$, $SD=0.84$), design ($M=3.03$, $SD=0.78$), doubts ($M=2.78$, $SD=0.86$), and lack of necessity ($M=2.70$, $SD=0.89$).

Secondly, indicator and internal consistency reliability, convergent and discriminant validity of measurement scales were confirmed as the results for Cronbach's α and composite reliability (CR) exceeded the desired threshold of 0.70 and the average variance extracted (AVE) for all constructs surpassed the 0.50 cutoff value (Hair et al., 2019). Lastly, hypotheses testing results demonstrated that EC had the strongest, statistically significant impact on AT, relative to PK and FI (H1-H3). AT was the most statistically significant, positive predictor of PI for sustainable textile fibers, followed by SN and PBC (H4-H6). Yet, PCE had no statistically significant influence on PI ($\beta = 0.088$, $p > 0.05$). Hence, except for H7, all other

hypotheses were accepted (see Figure 1).

V. Conclusion and Discussion

Consistent with previous studies, the acceptance of sustainable textile fibers was found to be facilitated by environmental awareness while being hindered by price and management difficulties (Park & Lee, 2015; ElHaffar et al., 2020). The findings of this study suggest that providing enough information on sustainable textile fibers can mitigate or capitalize on consumer biases and foster more sustainable choices and behaviors. Therefore, it is recommended to devise communication strategies that can teach and educate consumers about general information on sustainable textile fibers, and specifically, about their environmental benefits. Marketers may also inform consumers about how their individual sustainable consumption choice is self-sufficient in combating environmental problems. This will increase the PCE level among consumers, which can further lead to a behavioral shift.

Overall, this research contributes to the existing literature, which has mainly adopted a qualitative methodology for addressing drivers and barriers to the uptake of sustainable fashion consumption and has been centered on the review or evaluation of various types of sustainable textile fibers. Moreover, the results of this study shed light on the significance of material substitution and provide preliminary data for development of related policies, regulations, and strategies to foster the move toward sustainability in the textile and apparel sector.

Keywords: sustainable textile fiber, sustainable fashion, the Extended Theory of Planned Behavior

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