

Home Sewing Patterns and the Perceived Success of Pattern Alterations for Fit

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Keywords: Fit, Home Sewing Patterns, DASVT

The ability to control the fit of clothing has been found to be one of the major motivations for women to sew clothing for themselves (Martindale & McKinney, 2020). This activity can also give the home sewer a sense of accomplishment and pride in learning new skills and completing difficult projects (Martindale & McKinney, 2020). However, the more time women spent making pattern adjustments, the less they enjoyed sewing and they often did not approve of the final fit (LaBat et al., 2007). Custom patterns fit to the sewer may be a solution, but home sewers were only willing to pay between \$10 and \$20 for customized sewing patterns (LaBat et al., 2007).

The inherent challenge in fitting is that patterns are transformed from 2D to 3D objects required to fit the curves of the body by manipulating the pattern with darts, style lines, etc. (Workman, et al., 1999). This ability to imagine a 2D pattern into a 3D design is called spatial visualization (SV) (McGee, 1979). Apparel designers have tested the SV abilities of students using the 20- question DASVT test (Digital Apparel Spatial Visualization Test). In this test students must correctly match a flat pattern with one of five images of finished designs. Currently, no research has examined the SV skills of sewers.

The purpose of this research was to investigate what fit issues and pattern alterations female home sewers encountered with sewing patterns. A second aim was to measure the SV ability among home sewers and determine if there was a relationship between SV and the outcomes (either successful or not) of pattern alterations for fit.

Method and Procedures

To investigate, a 68-question survey was created through Qualtrics™. A pilot study was used to determine the effectiveness and clarity of the questions (Neuman, 2011). The survey covered topics of pattern alterations made, purchasing habits, sewing resources, custom patterns and contained the 20-question DASVT. The research recruitment flyer was posted to sewing related Facebook groups. Respondents were required to be English speakers, US citizen, identify as female, 18 years old, sew clothing for themselves, and make pattern alterations for fit. Descriptive statistics and a *t* test determined if there were any significant differences between the DASVT and the perceived success of pattern alterations for fit. Thematic analysis was used to analyze any open-ended questions.

Results and Discussion

Following IRB approval, the survey received 288 total responses with 162 of those usable. The sewers were mainly white, high income, highly educated, and between 18 to 84 years old. Most (43%) learned to sew from family members and had over 14 years of sewing experience (61.1%). Sewing motivations were for leisure and hobby (27.74%), better fit

(26.24%), and creativity (24.09%). Over two-thirds (67.23%) of the respondents shopped for their sewing patterns through small businesses online.

The most common alterations for fit were repositioning bust darts (59.87%), full bust adjustments (56.79%), and full bicep adjustments (43.20%), confirming Martindale and McKinney's (2019) findings. Common pants and skirt adjustments included adjusting waist width (50%), shortening hems (41.35%), full hip adjustments (35.80%), and lengthening (30.24%). Some respondents did not know what types of fit alterations they needed, for instance, "it gets frustrating trying to figure out what alteration is needed" (R148).

Only 48.15% of the respondents rated their alterations for fit to be "Successful", however style alterations were more "Successful" at 57.95%. Even less (22.84%) thought they were "Skilled" at making pattern alterations for fit. Almost 65% of the respondents spent on average between 30 minutes to two hours making pattern alterations for fit and 75.31% claimed that fit adjustments affected their sewing enjoyment. Although Martindale and McKinney's (2020) sample had more self-empowerment with their pattern alterations, these findings align more with LaBat et al.'s (2007) findings of frustration with sewing patterns, even after fit alterations had been made. One respondent commented, "it's frustrating, delays me from starting, unsure if garment will fit after putting time and effort, I judge fit of clothes I make harsher than I do clothes I buy, it's a struggle" (R98). Many of the respondents (66.05%) said alterations affected the number of garments that they made, for instance, "I have given up on plenty of patterns after multiple alterations haven't worked" (R55). Over half (51.86%), of the respondents reported their pattern alterations to be, at most, "Moderately Successful".

Almost half of the respondents were interested in purchasing a custom-made pattern. Some respondents noted that the custom pattern still needed alterations, but were happy with it afterward, for instance, "Some have fit beautifully, and some have required ... further adjustments" (R86). Some respondents had problems because, "it isn't easy to take self-measurements. Accurate measurements are key to success when using a pattern generator" (R23). Other respondents reported online pattern generators giving "bizarre results" (R43) for plus-size custom patterns. Few respondents said they were not, "confident (in) the fit" of a customized pattern (R96). Additionally, almost 33.95% of respondents had taken fitting classes either in person or online and were happy with the results, "It fit well; it was a class, so very guided" (R19). Similar to LaBat et al.'s (2007) findings, respondents were only willing to pay between \$10-\$30 for a custom pattern. Some respondents would only if they had, "the ability to do multiple sizes" (R66) or, "could adjust for free as my body changes" (R28).

Spatial Visualization and Pattern Alterations for Fit

The respondents' DASVT scores were divided into two groups, the top scores (scores of 16 and higher) and the bottom scores (scores of 15 and lower). Of the sample of 162 respondents, the average score on the DASVT was 15. Most of the respondents had over 14 years of sewing experience and were between the ages of 25 and 74 which could have increased

their spatial visualization skills. It has been suggested that apparel professionals score higher on spatial tests than students (Ahn & Workman, 2012). Using the Paper Folding Test (a similar test to the DASVT designed to test spatial visualization), a study determined older women with more experience in crafting had higher spatial visualization skills than women with less experience (Bailey & Sims, 2014).

Although, over half of the respondents (51.86%) said their sewing pattern alterations were at most, “Moderately Successful.” The respondents with higher SV skills had a mean success of pattern alterations for a fit score of 3.66 as compared to the slightly lower mean of 3.38 reported by the lower SV skills group. The respondent’s DASVT scores significantly ($p=.025$) related to their perceived success of pattern alterations for fit.

Conclusions

Over half of the respondents did not perceive their pattern alterations for fit to be successful although they had high SV skills. Future studies could use an apparel professional to determine if the home sewer was successful in their pattern alterations for fit or not. Home sewers indicated that they perceived their pattern alterations for style to be more successful than the pattern alterations for fit. This is an unexpected finding that should be further investigated.

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