

Clothing Color Preferences among Individuals with Narcissistic Traits

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Abstract - Narcissism is characterized by excessive self-focus and heightened attention to the enhancement of one's appearance. This study examined clothing color preferences among individuals with different levels of narcissism, using hue, value, and chroma as stimulus variables and a narcissism scale to assess narcissistic traits. Three main findings emerged. First, individuals with high levels of narcissism preferred red and yellow clothing, whereas those with moderate or low levels preferred blue clothing. Second, individuals with high levels of narcissism generally preferred clothing with high color value, whereas those with moderate or low levels preferred clothing with low color value. Third, individuals with high levels of narcissism generally preferred high-chroma clothing, those with moderate levels preferred moderate-chroma clothing, and those with low levels preferred low-chroma clothing. These findings extend the application of research on narcissism and provide an additional perspective on clothing consumption.

Keywords - Narcissistic traits; clothing color; color preference; self-presentation

I. INTRODUCTION

Narcissism is a personality trait characterized by an exaggerated sense of self-importance in psychological and behavioral functioning. Its central features include self-centeredness, a strong desire for self-display, domineering behavior, arrogance, and a desire for attention.

Social and economic development has been accompanied by substantial changes in human psychology and behavior, including greater independence, aspirations for self-transcendence, and individualization. These changes have been associated with increasing levels of narcissism. The emergence and widespread use of new media have further increased the visibility of narcissistic behavior. Compared with previous generations, younger people have been described as more narcissistic, self-centered, and inclined to hold highly favorable views of themselves [1,2].

Individuals with narcissistic traits have been described as dependent on self-esteem [3], with a strong desire for glory and a pronounced sense of vanity [4,5]. Studies have reported that they take selfies more frequently and pay greater attention to the numbers of likes and comments they receive. When this feedback falls short of their expectations, they may experience anxiety, depression, and other negative emotional responses [6,7]. Martin et al. [8] examined associations between individual and collective narcissism and three types of consumption-related behavior: vanity, self-improvement, and prosocial consumption. Narcissism was positively associated with vanity-

related behavior across the measures examined, and certain measures were also positively associated with specific forms of prosocial consumption.

Individuals with narcissistic traits exhibit distinctive consumption patterns. They tend to purchase numerous products online to construct and maintain their image, both displaying their purchasing power and using products to satisfy their desire for uniqueness. Their purchases encompass a wide range of products, including luxury goods and ordinary consumer goods [9]. They are often attracted to luxury products and conspicuous consumption, showing a willingness to buy products that are more expensive, exclusive, ostentatious, and personalized [10].

People with narcissistic traits also place particular emphasis on maintaining their self-image [11]. They have been described as having a stronger need for visual salience in self-presentation. They may use impression-management strategies and appearance-enhancement techniques to present themselves favorably, seeking positive evaluations from others to bolster their self-esteem. Such behavior includes wearing fashionable clothing and devoting considerable effort to enhancing their appearance [12]. They are more likely to wear expensive, ostentatious clothes, maintain a well-groomed appearance, and use cosmetics. These behaviors reflect their personality characteristics, concern with physical attractiveness, and desire to be the center of attention [13].

Taken together, this literature suggests that individuals with narcissistic traits place considerable importance on their appearance. Clothing color is a major visual component of the image presented by the wearer. The present study therefore investigated clothing color preferences among individuals with narcissistic traits. The findings may extend the application of research on narcissism and broaden the explanatory perspective on clothing consumption.

II. SCALE DEVELOPMENT AND EVALUATION

A. Scale Development

A 21-item narcissism scale was developed by drawing on the NPI measure of grandiose narcissism and the HSNS measure of vulnerable narcissism. Each item was rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Attention-check items were interspersed throughout the questionnaire to identify and exclude invalid responses.

B. Scale Evaluation

The scale was distributed through the Wenjuanxing online survey platform. A total of 110 questionnaires were returned, of which 92 were valid. The pretest indicated that the wording of the questionnaire items was unambiguous and readily understood by respondents.

1) *Reliability Analysis*: Cronbach's alpha was used to assess the internal consistency of the questionnaire. Items 5–26, excluding Item 15, comprised the 21-item narcissism scale and were used to assess respondents' levels of narcissism. As shown in Table I, Cronbach's alpha was 0.921, indicating good internal consistency.

TABLE I. RELIABILITY STATISTICS.

Cronbach's α	Number of items
0.921	21

2) *Validity Analysis*: As shown in Table II, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.867. Bartlett's test of sphericity was statistically significant ($p < 0.05$). These results were interpreted as indicating satisfactory construct validity. Taken together, the reliability and validity analyses were considered to indicate that the scale had satisfactory psychometric properties and could distinguish between different levels of narcissism.

TABLE II. KMO MEASURE AND BARTLETT'S TEST OF SPHERICITY.

KMO measure of sampling adequacy	0.867
Approximate χ^2	1056.02
Bartlett's test df	210
p	< 0.001

3) *Classification by Narcissism Level*: Total scores ranged from 21 to 105. Scores of 75–105 were classified as high narcissism, indicating very high levels of narcissism and pronounced narcissistic characteristics. Scores of 63–74 were classified as moderate narcissism, indicating a moderate degree of narcissism and relatively apparent narcissistic characteristics. Scores of 62 or below were classified as low narcissism, indicating low or very low levels and few evident narcissistic characteristics.

III. EXPERIMENT

A. Stimulus Materials

Colors were selected using the Munsell system. Five basic hues were used: red (R), yellow (Y), green (G), blue (B), and purple (P). Value was varied at three levels (3, 6, and 9), as shown in Table III. Chroma was also varied at three levels (2, 6, and 10), as shown in Table IV. A total of 30 colors were selected.

The selected colors were applied to the same garment design, as illustrated in Fig. 1. The images were prepared at 700×700 pixels, with a transparent background displayed as white. All features of the model were removed to minimize the influence of extraneous stimuli. The images were processed using Photoshop CC 2019, yielding a reported total of 33 stimulus images. The questionnaire displayed one image per page in a fully randomized order. Participants rated each image on a five-point scale, ranging from 1 (strongly dislike) to 5 (strongly like).

The stimulus configuration comprised two complementary series in which value and chroma were varied separately. As

specified in Table III, chroma was held constant at 4 while value was varied across 3, 6, and 9 within each hue. Conversely, in Table IV, value was fixed at 6 while chroma was varied across 2, 6, and 10. Each series therefore included three levels of the target color attribute within the same five hue categories, enabling comparisons within a hue without simultaneously changing both value and chroma. Applying these color specifications to a single garment design provided a consistent visual context for preference judgments, rather than introducing differences in clothing style. The removal of model features and the use of uniform image dimensions and backgrounds were intended to limit the influence of non-color cues. Together, these stimulus characteristics provided a structured basis for examining preferences for specific clothing color attributes across different levels of narcissism.

TABLE III. COLOR STIMULI VARYING IN HUE AND VALUE.

Hue	Low value		Moderate value		High value	
	Code	Sample	Code	Sample	Code	Sample
7.5R	7.5R 3/4		7.5R 6/4		7.5R 9/4	
7.5Y	7.5Y 3/4		7.5Y 6/4		7.5Y 9/4	
7.5G	7.5G 3/4		7.5G 6/4		7.5G 9/4	
7.5B	7.5B 3/4		7.5B 6/4		7.5B 9/4	
7.5P	7.5P 3/4		7.5P 6/4		7.5P 9/4	

TABLE IV. COLOR STIMULI VARYING IN HUE AND CHROMA.

Hue	Low chroma		Moderate chroma		High chroma	
	Code	Sample	Code	Sample	Code	Sample
7.5R	7.5R 6/2		7.5R 6/6		7.5R 6/10	
7.5Y	7.5Y 6/2		7.5Y 6/6		7.5Y 6/10	
7.5G	7.5G 6/2		7.5G 6/6		7.5G 6/10	
7.5B	7.5B 6/2		7.5B 6/6		7.5B 6/10	
7.5P	7.5P 6/2		7.5P 6/6		7.5P 6/10	



Fig. 1. Examples of clothing color stimuli.

B. Procedure

The survey was conducted using Wenjuanxing. All participants were reported to have no color blindness or color-vision deficiency. Of the 167 questionnaires returned, 155 were valid, corresponding to a valid response rate of 92.8%. The questionnaire comprised two parts. The first assessed narcissistic traits using the narcissism scale. The second assessed clothing color preferences: participants rated their preference for each clothing color on a five-point scale from 1 (strongly dislike) to 5 (strongly like).

C. Results

1) *Participant Characteristics:* The reported group sizes were 59 for low narcissism (scores of 62 or below), 46 for moderate narcissism (scores of 63–74), and 47 for high narcissism (scores of 75–105). The sample included 76 men and 79 women. The 155 valid questionnaires collected information on gender, age, occupation, and income. Descriptive statistics are presented in Table V.

TABLE V. PARTICIPANT CHARACTERISTICS (N = 155).

Characteristic	Category	n	%
Gender	Male	76	49.0
	Female	79	51.0
Age (years)	18–25	75	48.4
	26–35	30	19.4
	36–45	23	14.8
	46–55	19	12.3
	> 55	8	5.2
Occupation	Student	64	41.3
	Teacher	7	4.5
	Design professional	2	1.3
	Corporate manager	8	5.0
	Self-employed	13	8.4
	Freelancer	18	11.6
	Other	43	27.7
Income (CNY)	< 3,000	71	45.8
	3,000–5,000	35	22.6
	5,000–7,000	27	17.4
	7,000–9,000	13	8.4
	> 9,000	9	5.8

Counts and percentages are reproduced from the source. The income reporting period is not specified.

2) *Clothing Hue Preferences across Narcissism Levels:* Fig. 2 presents clothing hue preferences by narcissism level. In the high-narcissism group, preferences were ranked in the following order: red, yellow, purple, blue, and green. Red clothing was the most preferred, followed by yellow. Although the moderate- and low-narcissism groups differed somewhat in their mean ratings, they exhibited the same preference ranking: blue, purple, red, yellow, and green. Blue clothing was the most preferred in both groups.

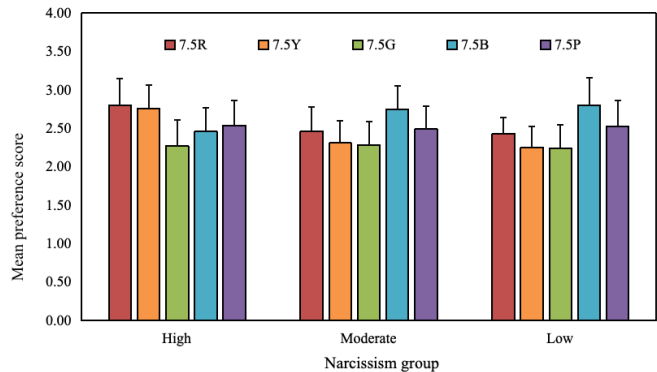


Fig. 2. Clothing hue preferences across narcissism levels.

The results of the analysis of variance (ANOVA) are summarized in Table VI. Significant differences were reported between the high- and moderate-narcissism groups and between the high- and low-narcissism groups ($p < 0.05$). Thus, the hue preferences of individuals with high levels of narcis-

sism differed from those of individuals with moderate or low levels. The high-narcissism group preferred warm-colored clothing, whereas the moderate- and low-narcissism groups preferred cool-colored clothing. The difference between the moderate- and low-narcissism groups was not statistically significant ($p > 0.05$), suggesting no clear difference in clothing preferences between these two groups.

TABLE VI. ANOVA-BASED COMPARISONS OF CLOTHING HUE PREFERENCES.

Group I	Group J	Mean difference	SE	p
High	Moderate	6.183*	2.892	0.034
High	Low	9.779*	2.729	0.002
Moderate	High	-6.183*	2.892	0.034
Moderate	Low	3.596	2.745	0.192
Low	High	-9.779*	2.729	0.002
Low	Moderate	-3.596	2.745	0.192

Group labels indicate narcissism level. Mean difference = Group I minus Group J.
* $p < 0.05$.

3) *Clothing Color Value Preferences across Narcissism Levels:* Fig. 3 shows preferences for clothing with different levels of color value. When hue was held constant, individuals with high levels of narcissism preferred high-value clothing, whereas their preferences for moderate- and low-value clothing differed little. Individuals with moderate levels of narcissism showed similarly high preferences for low- and moderate-value clothing. Individuals with low levels of narcissism preferred low-value clothing.

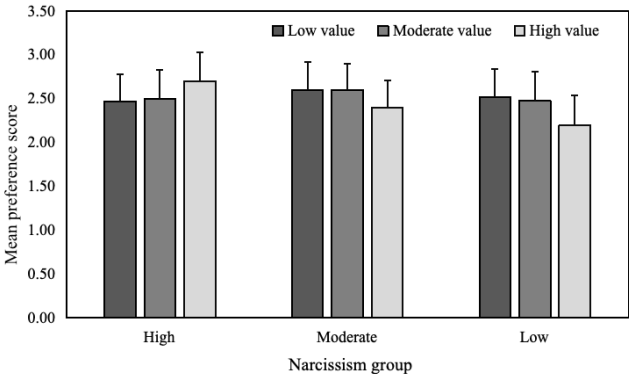


Fig. 3. Clothing color value preferences across narcissism levels.

Pearson correlation analysis indicated a statistically significant association between narcissism and clothing color value preference ($r = 0.170$, $p < 0.05$), as shown in Table VII. Higher levels of narcissism were associated with a stronger preference for high-value clothing, consistent with the pattern of mean preference ratings.

TABLE VII. CORRELATION BETWEEN NARCISSISM AND CLOTHING COLOR VALUE PREFERENCE.

Variable	M	SD	Narcissism	Value
Narcissism	67.08	13.77	1	0.170*
Value preference	46.21	8.75	0.170*	1

* $p < 0.05$.

As shown in Table VIII, significant differences were reported between the high- and moderate-narcissism groups and between the high- and low-narcissism groups ($p < 0.05$). These results indicated that the high-narcissism group differed from the other two groups in clothing color value preference. Individuals with high levels of narcissism preferred high-value

clothing, whereas those with moderate or low levels showed the opposite pattern. The difference between the moderate- and low-narcissism groups was not statistically significant ($p > 0.05$).

Although individuals with moderate levels of narcissism also exhibited narcissistic traits, their clothing color value preferences were generally similar to those of individuals with low levels. Once narcissism exceeded a certain level, individuals tended to favor high-value clothing in an effort to attract attention and present themselves more prominently. High-value colors are visually light and can create an emphasis effect.

TABLE VIII. ANOVA-BASED COMPARISONS OF CLOTHING COLOR VALUE PREFERENCES.

Group I	Group J	Mean difference	SE	p
High	Moderate	6.297*	1.674	0.007
High	Low	7.613*	1.579	0.007
Moderate	High	-6.297*	1.674	0.007
Moderate	Low	1.316	1.589	0.409
Low	High	-7.613*	1.579	0.007
Low	Moderate	-1.316	1.589	0.409

Group labels indicate narcissism level. Mean difference = Group I minus Group J.
 * $p < 0.05$.

4) *Clothing Color Chroma Preferences across Narcissism Levels*: Fig. 4 presents clothing color chroma preferences by narcissism level. Individuals with high levels of narcissism showed the strongest preference for high-chroma clothing, those with moderate levels showed the strongest preference for moderate-chroma clothing, and those with low levels showed the strongest preference for low-chroma clothing. This pattern suggested that individuals with high levels of narcissism favored vivid clothing colors, whereas those with low levels favored muted, grayish colors.

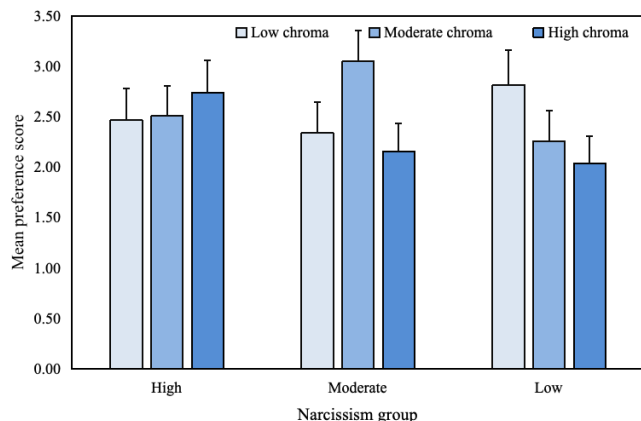


Fig. 4. Clothing color chroma preferences across narcissism levels.

Pearson correlation analysis indicated a statistically significant association between narcissism and clothing color chroma preference ($r = 0.173$, $p < 0.05$), as shown in Table IX. Higher levels of narcissism were associated with a stronger preference for high-chroma clothing, consistent with the mean preference ratings.

TABLE IX. CORRELATION BETWEEN NARCISSISM AND CLOTHING COLOR CHROMA PREFERENCE.

Variable	M	SD	Narcissism	Chroma
Narcissism	67.08	13.77	1	0.173*
Chroma preference	36.40	8.75	0.173*	1

* $p < 0.05$.

As shown in Table X, all pairwise comparisons between the high-, moderate-, and low-narcissism groups were statistically significant ($p < 0.05$). This indicated differences in clothing color chroma preferences across all three levels of narcissism. Individuals with high, moderate, and low levels of narcissism preferred high-, moderate-, and low-chroma clothing, respectively.

TABLE X. ANOVA-BASED COMPARISONS OF CLOTHING COLOR CHROMA PREFERENCES.

Group I	Group J	Mean difference	SE	p
High	Moderate	4.891*	1.416	0.003
High	Low	8.321*	1.336	0.003
Moderate	High	-4.891*	1.416	0.003
Moderate	Low	3.429*	1.344	0.012
Low	High	-8.321*	1.336	0.003
Low	Moderate	-1.316*	1.344	0.012

Group labels indicate narcissism level. Mean difference = Group I minus Group J.
 * $p < 0.05$.

IV. DISCUSSION

In contemporary society, clothing serves as a symbolic means of self-expression and social interaction. Color is one of its most apparent visual features and can exert psychological influence and guide responses. Different colors can also elicit different emotional responses and behavioral tendencies. Through a questionnaire survey, the present study investigated clothing color preferences among individuals with narcissistic traits and identified distinctive patterns.

The results indicated significant differences in clothing color preferences among individuals with different levels of narcissism. Those with high levels preferred red and yellow hues, high color value, and high chroma. Such colors create visually salient and stimulating impressions that may satisfy the desire for self-presentation. These preferences are consistent with the tendency of individuals with narcissistic traits to focus strongly on themselves, attend to how others perceive them, and seek attention. The findings support the conclusions of the related literature discussed above.

V. CONCLUSION

The survey and analyses yielded three main conclusions:

- (1) With respect to clothing hue, individuals with high levels of narcissism preferred visually salient and stimulating colors such as red and yellow. In contrast, individuals with moderate or low levels preferred subdued and restrained colors such as blue and green.
- (2) With respect to clothing color value, individuals with high levels of narcissism generally preferred high-value clothing, whereas those with moderate or low levels preferred low-value clothing.
- (3) With respect to clothing color chroma, individuals with high levels of narcissism generally preferred high-chroma clothing, those with moderate levels preferred moderate-

chroma clothing, and those with low levels preferred low-chroma clothing.

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