



## Effects of Stress on Dressing and Eating Behaviors of Chinese Female Students

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**Introduction:** Research in humans has demonstrated that stress causes physical, emotional, interpersonal, and/or psychological changes (O'Connor et al., 2008). In the US, there is supporting evidence that stress stimulates changes in dressing habits and food choices (e.g., The American Institute of Stress, 2008; Habhab, Sheldon, & Loeb, 2009; Kandiah & Saiki, 2010) however, limited research has investigated other ethnicities. When compared to Americans, female Chinese college students in Asia have demonstrated higher levels of body dissatisfaction and spend more time on appearance. There have also been increases in weight concerns, dieting behaviors, body weight dissatisfaction, and eating disorders among Chinese females (Zhang, 2012). With the influx of diverse cultural groups, especially Chinese to the U.S. for education (Witherell & Clayton, 2014), it will be valuable to understand their stress coping mechanisms. Adapting to a western living in the US (e.g., understanding cultural values, customs, and language) could be stressful for Chinese females both physically and mentally. This coupled with the demands of college education and the need to be academically successful, could be a further confounding stress factor. Another constraint is the continual desire to maintain an ideal body image (e.g., being tall and thin, having fair skin) through dressing and eating practices (Misra, R., & Castillo, L. G. 2004). Therefore, the purpose of this research is to examine how perceived stress influences dressing and eating behaviors of Chinese female students.

**Methods:** A validated and reliable Stress, Dressing, Eating, and Body Image Survey (SDEBS) developed by the researchers was used for this study. The SDEBS was divided into four sections: Part A - Demographics, Part B - Dressing and eating patterns during perceived stressful (S) and non-stressful (NS) conditions, Part C- Effort put forth to plan, control, and maintain dressing and eating habits, and Part D - Body image. Part A had seven question about age, geographical location when residing in China, duration of stay in the US, height, weight, marital status, and living arrangements. Additionally, participants' daily stress intensity was also gathered. Part B consisted of 30 multiple choice questions pertaining to dress items worn and foods eaten when under perceived S and NS conditions. Part C used a four-point Likert scale (ranging from great, considerable, some, and little/no) that assessed participants' efforts put forth to plan, control, and maintain dressing and eating. Part D used Cash and Pruzinsky's (1990) Multidimensional Body-Self Relations Questionnaire, which grouped questions into three categories, namely, "appearance evaluation" (AE), "appearance orientation" (AO), and "body areas satisfaction" (BAS). The dressing and food related questions were modified from a previous survey to accommodate the dressing and dietary habits of Chinese females (Kandiah & Saiki, 2010). Items in the dress categories included selection of accessories, informal dress, formal dress, make-up, skin care, hair care practices, scent products, and appearance enhancement services. Items in the food categories consisted of selection of mixed dishes, ethnic, salty/crunchy, sweet, creamy, soft foods, and beverages. After approval of the study's protocol by the Institution's Review Board, the SDEBS was made available online to female Chinese college students studying at a Midwestern University. Using SPSS version 22 (2013), data were statistically analyzed using t-tests, Analysis of Variance, and Pearson's Correlation Coefficient and significance was established at  $p \leq .05$ .

**Results:** Seventy-six Chinese females (18-30 years) successfully completed the SDEBS. Demographical information indicated majority of the participants were single (92%), living alone/with non-family

members (52.9%), had resided previously in Southern China (60%), were living in the US for 6 months or longer (76%), and had a mean height of 5'4" and weight of 120 pounds. Most of them placed some (53.7%) to considerable (27.3%) effort to maintain their appearance. For the purpose of this conference, major findings related to dressing but limited to food will be highlighted. Comparison of variables from NS to perceived S conditions, revealed there was a statistically significant decrease in the selection of accessories ( $t = 2.08$ ,  $df = 70$ ,  $p = .042$ ), informal dress ( $t = 1.98$ ,  $df = 71$ ,  $p = .051$ ), formal dress ( $t = 2.59$ ,  $df = 70$ ,  $p = .012$ ), skin care ( $t = 2.21$ ,  $df = 72$ ,  $p = .030$ ), hair care practices ( $t = 2.36$ ,  $df = 72$ ,  $p = .021$ ), and scent products ( $t = 2.01$ ,  $df = 67$ ,  $p = .049$ ). In the food categories, irrespective of the condition (perceived S or NS) there were no statistically significant differences in the selection of foods. There was a significant relationship between effort put forth in maintaining one's appearance and changes in hair care practices ( $r = .30$ ) and skin care ( $r = .34$ ) behaviors from NS to perceived S conditions. With regard to dressing and eating patterns, participants who changed appearance enhancement services when stressed, indicated food was a comfort when stressed ( $r = -.34$ ), and they spent less time getting dressed ( $r = -.25$ ). Furthermore, the type of dressing changed significantly during perceived S conditions. When stressed, those who typically wore informal dress opted to formal dressing ( $r = .31$ ). When comparing participants during perceived NS to S conditions, those who reported never being stressed indicated a significant decline in formal dress wear [ $F(2,64) = 3.55$ ,  $p = .034$ ] and hair care practices [ $F(2,68) = 3.63$ ,  $p = .032$ ] compared to those who are sometimes or always stressed. With reference to living alone and living with a non-family members, participants who lived with family appeared to have a better body image, specifically body area satisfaction [ $F(2,72) = 3.78$ ,  $p = .027$ ].

**Discussion, Conclusions and Implications:** Preliminary findings of this research demonstrated, Chinese female students are concerned with their appearances (Zhang, 2012) as stress impacted dressing more than eating behaviors. During perceived S to NS conditions, participants placed a lot of effort on the selection of accessories, skin care, hair care practices, and scent products rather than focusing on apparel. When under perceived stress, there appears to be a change in the type of dressing (e.g. formal or informal dress). Additionally, body areas satisfaction was higher among those who lived with their families. These results have practical implications as selection of accessories, skin care, hair care practices, and scent products may help detect prevalence of stressors in this population. Recommendations for future research could include examining a larger sample, comparing age, gender, geographical location, and ethnic variations.

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