NC STATE UNIVERSITY The Forum for Family and Consumer Issues (FFCI)

The Forum for Family and Consumer Issues (FFCI)
Carolyn L. Bird, Ph.D., AFC - Editor In Chief
TheForumJournal.org | ISSN 1540-5273 | info@theforumjournal.org

Instrument to Assess Perceived Effects of Stress on Dressing and Eating Behaviors

Jay Kandiah, PhD, RD, CD
Professor

Diana Saiki, Ph.D.
Associate Professor
Ball State University

Abstract

The purpose of this study was to report preliminary findings about an original research instrument that assesses dressing and eating behaviors of females when under non-stressful and stressful conditions. The instrument, Stress Dressing and Eating Survey (SDES) included 51 questions divided into four sections: 1) demographics, 2) effort put forth to control dressing and making healthy eating choices, 3) patterns of dressing and eating when stressed, and 4) dress items worn and foods eaten when under non-stressful and stressful conditions. Test-retest results from 51 participants demonstrated that the SDES has the potential to be reliable and useful in FCS integrated programs related to food and dress. A t-test using this pilot data revealed stress influenced eating and dressing behaviors. The SDES instrument appears to be a useful tool for practitioners and researchers in the applied and scholarly areas of Family and Consumer Sciences.

Key words: Females, Stress, Dressing behaviors, Eating behaviors

Introduction

According to recent research, there has been an increase in stress levels in the United States (Hitti 2007; Rentfrow, Mellander, and Florida 2009). Some of the common symptoms of stress include anxiety, depression, excessive worrying, upset stomach, fatigue, chest pain, and high blood pressure (Heitt 2004). It has been validated that stress influences changes in food intake (Habhab, Sheldon, and Loeb 2009; Hepworth, Mogg, Brignell, and Bradley 2010). Repeated

induced eating overtime may contribute negatively to the overall health of an individual, both physically and psychologically (Kandiah, Yake, Meyer, and Jones 2006). Dressing has been discussed as providing important visual cues about an individual's personality, such as credibility, interest in new fashion trends, and degree of professionalism (Roach-Higgins and Eicher 1992).

A group of individuals more prone to stress are women (Hitti 2007). Women often hold the fortress of their families thereby neglecting their own health. As a coping mechanism to the multitude of stressors they face, women may seek a variety of avenues as an outlet to comfort themselves including neglecting their appearance and making unhealthy food choices (Habhab, Sheldon, and Loeb 2009; Hepworth, Mogg, Brignell, and Bradley 2010; The American Institute of Stress 2008).

Review of the literature

Stress and Food

Previous studies have investigated types of stressors, ways to overcome stress, and general effects of stress on eating behavior (Bellisle et al. 1990;; Greeno and Wing 1994). With the increased prevalence of stress in today's society, scientists have included other parameters such as restraint level (Oliver , Wardle, and Gibson 2000; Stirling and Yeomans 2003; Tanofsky-Kraff, Wilfley, and Spurrell 2000; Wardle et al. 2000), types of stressors (Cohen et al. 2002; Hudd et al. 2000; Oliver, Wardle, and Gibson. 2000; Tanofsky-Kraff, Wilfley, and Spurrell et al. 2000; Wardle et al. 2000), food preferences/intake (Oliver, Wardle and Gibson 2000; Stirling and Yeomans 2003; Wansink, Cheney, and Chan 2003), body weight (Greeno and Wing 1994), and gender (Cohen et al. 2002; Oliver, Wardle, and Gibson 2000; Wansink et al. 2003).
Oliver and Wardle (1999) have demonstrated that regardless of gender and dieting practices, stress increases intake of snack-type foods, and decreases intake of meal-type foods. Wansink, Cheney, and Chan (2003) demonstrated gender differences exist in the types of comfort foods selected during stress. When meals and snack-related foods were compared between males and females, results showed males preferred warm, hearty, meal-related comfort foods (e.g. steak, casseroles), while females preferred more snack-related comfort foods (e.g. chocolate and ice cream). Unlike older adults, those 55 years of age and younger preferred more snack-related comfort foods.
Kandiah et al. (2006) used five comfort-food categories (mixed dishes, salty/crunchy foods, sweet foods, creamy foods, and beverages) to study the effects of stress on eating habits of female college students. With stress, 81 percent (n=221) of the subjects experienced a change in appetite and of those, 62 percent (n=139) experienced an increased appetite. Subjects with an increased appetite chose significantly more types of sweet foods and mixed dishes than those with a decreased or minimal change in appetite (Kandiah, Yake, Meyer, and Jones 2006).

To explore if differences in food selection would occur with adults (≤55 and >55 years) in a similar environment, Kandiah, Yake, and Willett (2008) investigated types of comfort foods consumed by faculty under non-stressful and stressful conditions. When looking at stress-induced changes in eating habits from a pool of 185 faculty, 123 (67 percent) reported experiencing a change in appetite when stressed. Of these, 85 (69 percent) experienced an increase in appetite and 38 (31 percent) experienced a decrease in appetite. More than one-third (n=61; 33 percent) indicated that stress had no effect on their appetite. With the exception of beverages, females selected fewer types of food from the comfort food categories (i.e. mixed dishes, salty/crunchy foods, sweet foods, creamy foods, and beverages) than males. Irrespective of gender, under stressful conditions, participants chose a wider variety of sweet ($p \leq 0.001$) and salty/crunchy foods ($p=0.004$) indicating adults may experience an increase in appetite with stress and may choose more types of sweet and salty/crunchy foods. No significant relationship was found between stress conditions and age groups in any of the comfort food categories. Age was an influence with a variety of mixed dishes, in that it significantly decreased ($p=0.048$) as age increased, demonstrating less variety in the selection of mixed dishes among older adults.

Stress and Dress

According to the American Institute of Stress (2008), one of the signs of stress is neglecting appearance. Most of the research has focused on the relationship between personality and clothing, specifically as it relates to appearance management. Appearance management encompasses all activities associated with the act of dressing, such as use of accessories, selection of clothing, application of cosmetics and fragrances, as well as, its social consequences (Kaiser 1997). In popular literature, a strong relationship between appearance management and personality has been observed (Kroeger and Thuesen 1988; Lauer and Lauer 1981). After surveying university students about their personality and appearance, Johnson, Francis, and Burns (2007) found that people with certain personality traits monitored their appearance closely. People with high anxiety (e.g. worried, fearful, nervous, and tense) and those with limited interests monitored their appearance closely. In addition, those with conventional and down to earth personalities also gave greater attention to their appearance. The authors stated that nervous people manage their appearance to relieve their stress while those with positive emotions do it for social reasons.

Unlike personality, which has been described as relatively stable (Johnson, Francis, and Burns 2007), dressing selection has been found to be affected by mood fluctuations. Kwon (1987) examined the relationships between motivating factors (e.g. weather, occasion, and mood), and an individual's daily dressing behaviors. It was found that mood along with other contextual factors (e.g. weather, occasion) influenced dressing decisions. A further study by Kwon (1991) about the relationship between mood, self consciousness, and selection of clothing and gender indicated fluctuations in mood, especially negative moods, affected clothing selection in females. On the contrary similar observations were not noted in males.

Food and Dress

Like Creekmore (1968), other researchers (Abdel-Ghany 2001) have observed a strong association between food and clothing as symbols of a culture. Engel was instrumental in the fundamental development of the idea of using consumer expenditures for household goods including food and clothing and its relationship to social phenomenon (Monroe 1974). Since then, other researchers have measured these relationships using the Consumer Expenditure Survey (Dyer, Burnsed and Dyer 2006; Saiki and Kandiah 2006; Wagner and Soberon-Ferrer 1990). Using the 2003 Consumer Expenditure Survey, Saiki and Kandiah found that expenditure for clothing and food varied among various ethnic groups (Euro-Americans, African Americans, and Hispanics). Further, it was found that purchasing habits were greatly influenced by culture. For example, unlike Euro-Americans, African Americans, and Hispanics spent more money on clothing than on food. This was attributed to the ethnic group's desire to express their cultural identity. In reference to food, it was found that Hispanics spent more money on food at home than Euro-Americans. This difference was associated with the family-orientated cultural norms within the Hispanic community.

To date, very limited research has examined the effect of stress on both dressing and eating behaviors. A research instrument of this nature is warranted as it will help identify stress cues. This information will be used to further explore the relationships between food, dress, and individual emotional states. Identifying these relationships will enable FCS professionals to explore an integrated approach in community programs. Therefore, the purpose of this research is to report preliminary data related to the efficacy of the instrument to assess the relationship between dressing and eating patterns of females during non-stressful and stressful conditions.

Methods

The instrument was a 51 itemized Stress Dressing and Eating Survey (SDES) that was divided into four sections namely: 1)demographics, 2) effort put forth to control dressing and making healthy eating choices, 3) patterns of dressing and eating when stressed, and 4) dress items worn and foods eaten when under non-stressful and stressful conditions. The demographics section evaluated ethnicity, height, weight, marital status, and residency. To assess effort put forth to plan, control, and maintain dressing and eating, a four point Likert scale (ranging from great, considerable, some, and little/no) was used. A series of yes/no questions were used to identify dressing and eating patterns when stressed. Types of clothing, accessories worn, and dress habits as defined by Roach-Higgins and Eicher (1992)when under non-stressful and stressful conditions was assessed using 26 multiple choice questions. The food-related questions included mixed dishes, salty/crunchy, sweet, and creamy foods and were similar to those previously identified and utilized by Kandiah et al. (2006). Validity of the SDES was evaluated by ten professionals (five in fashion and five in foods and nutrition) and appropriate modifications were incorporated. Using a test-retest, reliability was verified by administering the instrument electronically to a

convenience sample of female college students at a Midwestern university. Test-retest was used because the items comprising the scales were heterogenous rather than homogeneous by design.

Upon approval from the University's Institutional Committee on Investigations Involving Subjects, participants received an e-mail about the study protocol related to accessibility, completion, and submission of the SDES. Test-retest was performed by providing subjects one week to complete the survey after which it was inaccessible. Two weeks later, the same participants were contacted and requested to complete the SDES a second time, which was available for one week.

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS Version 13, 2004 Chicago). Pearson's correlation coefficient was utilized to test reliability of fashion and food scale. Significance was established at $p \leq 0.001$. Among those who completed the survey twice, a paired t-test enabled comparison of dressing and eating behaviors during non stressful and stressful conditions. A p value of <0.05 was considered statistically significant.

Results

Demographics

Fifty-one participants successfully completed the test-retest. A vast majority of subjects were between 18-22 years (n=46; 92 percent) and all were Caucasians. Students were either in their first (19.6 percent; n=10), second (45.1 percent; n=23) or third year (19.6 percent; n=10) of college. Body mass index (BMI) was calculated based on reported weights and heights and 66.7 percent (n=34) were of normal weight (BMI 18.5-24.9) with 7.8 percent underweight or 25.5 percent overweight/obese. Forty-five (88.2 percent) of the females were single.

Test-retest reliability

Both the Kappa Coefficient and Pearson's R coefficient for the seven questions related to the effort put forth to control dressing and making healthy eating choices were statistically reliable ($p \leq 0.001$). Percent agreement between test-retest responses for four questions had over 90 percent, two had at least 70 percent, and one had 56 percent (see Table 1).

Test-retest results to questions related to patterns of dressing and eating when stressed revealed that six variables for the Kappa Coefficient and Pearson's R coefficient were statistically significant at $p \leq 0.001$. These included making healthy eating choices, dressing fashionably, dressing casually, using food as comfort, changes in appetite, and frequency in the occurrence of stress with a percent agreement ranging from 73.5 to 94.2 (see Table 2).

As noted in Table 3, test-retest results to questions related to patterns of eating when under non-stressful conditions revealed with the exception of mixed dishes (burgers/sandwich meats) and

salty/crunchy food (cheese curls) categories, all other food items were statistically significant. In the dressing section, only the t-shirt/tank top option in the casual dress category was not statistically significant (see Table 4).

As observed in Table 5, under stressful conditions two items in the mixed dishes (burgers/sandwiches, fast food/restaurants), one item in the salty/crunchy (pretzels), two items in sweet foods (chocolate/candy bar, candy), and one item in creamy foods (pasta) categories were not found to be statistically significant. Table 6 shows with the exception of skirts and dresses in the formal dress category and pluck hair in the hair category, a majority of the dressing components of the SDES were statistically significant.

Paired t-test: Non-stressful versus stressful conditions

Paired t-tests were conducted to compare dressing and eating behaviors during non-stressful and stressful conditions. During stressful conditions, females exhibited a decline in their preference to wear accessories, dress formally, maintain hair, apply make-up, and use fragrances (scent). These changes from non-stressful to stressful conditions were found to be statistically significant ($p \leq .001$). As seen in Table 7, from non-stressful to stressful conditions there was a statistically significant increase in beverage and sweet consumption ($p \leq .001$).

Discussion

Preliminary findings from this research indicate the SDES has the potential to be reliable in most dress and food categories. Alterations based on these results include inclusion of other food and dress items, removal of items, and rephrasing questions/items. No changes were made to the first two sections of the SDES (i.e. demographics or the effort put forth to control dressing and making healthy eating choices). Revisions to the section in the SDES that looked at effort put forth to control dressing and making healthy eating are noted on Table 8. Changes to the SDES as noted in Table 9 are related to foods consumed and dress items worn when under non-stressful and stressful conditions where items were grouped together or separated and other items were rephrased. Further studies with varied samples (e.g. ethnicity, geographic location, age, community groups, and social economic status) need to be pursued to assure reliability.

Although a larger and more varied sample is warranted, preliminary findings of this research are in agreement with past studies that symptoms of stress includes changes in dressing, appearance, and eating behaviors (Kandiah et al. 2006; Kandiah, Yake, and Willett 2008) Additionally, results reveal patterns of dressing and eating may be influenced by emotional factors that may alter appearances. The SDES has the: 1) capability to investigate the relationship between dressing and food habits, 2) ability to explore perceived efforts of individuals in managing dressing and eating habits during stressful and non-stressful conditions, and 3) potential to characterize dressing and eating habits of women with different psycho-graphical (e.g. values)

and demographical characteristics (e.g. age, socio-economic group, educational level, and marital status) thus making it versatile for future researchers and practitioners in FCS. Extension agents, practitioners in FCS and allied health professions (e.g. dietetics, nursing, mental and behavioral health, nurses, and the medical profession), secondary educators, collegiate faculty, and students will value this information for several reasons. Results from this preliminary research can be complied and developed as a brochure which could be used by extensions agents in highlighting and educating care providers to identify dressing and eating patterns of college students during non-stressful and stressful conditions. Practitioners in FCS and allied health professionals can use this information to assess eating and dressing behaviors of college students during different emotional states. This will ensure that early intervention is provided in a timely manner to provide a better quality of life. The instrument can be used as an educational tool in extension programs, workshops, and FCS classroom to stimulate discussion about the effects and signs of stress on behavior as it relates to food consumption and dressing. Students, faculty, and extension agents can use these research findings as a foundation in the exploration and development of future projects. In addition, baseline data obtained from this study could lend itself to students' thesis and dissertation endeavors. Such projects will further enrich the understating of the integrative nature of FCS particularly the specialty between food and fashion. Although this survey was with college students, the validity of the survey could be tested by including other female population groups (e.g. mature women, trauma victims such as those who have experienced physical/sexual abuse, domestic violence, and war, and those with psychological disorders).

References

Abdel-Ghany, M. 2001. The evolution of research in consumer science: A 200-year perspective. *Family and Consumer Sciences Research Journal* 30(2):223-239.

Bellisle F., J. Louis-Sylvestr, N. Linet, B. Rocaboy, B. Dalle, F. Cheneau, D. L'Hinoret, and L. Guyot. 1990. Anxiety and food intake in men. *Psychosomatic Medicine* 52(4):452-457

Cohen, J.H., A.R. Kristal, D. Neumark-Sztainer, C.L. Rock, and M.L. Neuhouser. 2002. Psychological distress is associated with unhealthful dietary practices. *Journal of the American Dietetic Association* 102(5):699-703.

Creekmore, A.M. 1968. The concept basic to home economics. *Journal of Home Economics*60(2):93-99.

Dyer, B., K.A. Burnsed, and C.L. Dyer. 2006. Ethnicity and household expenditures: Furnishings, fashion, and flux? *Family and Consumer Sciences Research Journal* 35(2):131-159.

Greeno, C.G., and R.R. Wing. 1994. Stress-induced eating. *Psychological Bulletin* 115(3):444-464.

Habhab, S., J.P. Sheldon, and R.C. Loeb. 2009. The relationship between stress, dietary restraint, and food preferences in women. *Appetite* 52(2):437-444.

Heitt, M. 2004. *Managing Stress*. Available at http://www.jhu.edu/hr1/fasap/stress/ Accessed July 21, 2010.

Hepworth, R.K. Mogg, C. Brignell, B.P. Bradley, B.P. 2010. Negative mood increases selective attention to food cues and subjective appetite. *Appetite* 54(1):134-142.

Hitti, M. 2007. Extreme stress taking a toll on health, relationships, and work, survey shows. *WebMD*. Available at http://www.webmd.com/mental-health/news/20071025/1-in-3-adults-feel-extreme-stress?src=RSS_PUBLIC Accessed on July 21, 2010.

Hudd, S.S., J. Dumlao, D. Erdmann-Sager, D. Murray, E. Phan, N. Soukas, and N. Yokozuka. 2000. Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal* 34:217-228.

Johnson, T., S.K. Francis, and L.D. Burns. 2007. Appearance management behavior and the five factor model of personality. *Clothing and Textiles Research Journal* 25(3):230-243.

Kaiser, S.B. 1997. *The Social Psychology of Clothing: Symbolic Appearances in Context*(2nd ed. Rev.). New York, N.Y.: Fairchild.

Kandiah, J., M. Yake, and H. Willett. 2008. Effects of stress on eating practices among adults. *Family and Consumer Sciences Research Journal* 37:27-38.

Kandiah, J., M., Yake, M. Meyer, and J. Jones. 2006. Stress influences appetite and comfort food preferences in college women. *Nutrition Research* 26:118-123.

Kroeger, O.J., and J.M. Thuesen. 1988. *Type Talk: Or How to Determine Your Personality Type and Change Your Life*. New York, N.Y.: Delacorte Press.

Kwon, Y. 1987. Daily clothing selection: Interrelationships among motivating factors. *Clothing and Textiles Research Journal* 5(2):21-27.

Kwon, Y. 1991. The influence of the perception of mood and self-consciousness on the selection of clothing. *Clothing and Textiles Research Journal* 9(4): 41-46.

Lauer, J.C., and R.H. Lauer. 1981. *Fashion Power: The Meaning of Fashion in American Society*. Englewood Cliffs, N.J.: Prentice Hall.

Monroe, D. 1974. Pre-Engel studies and the work of Engel: The origins of consumption research. *Home Economics Research Journal 3*(1):43-63.

Oliver, G., and J. Wardle. 1999. Perceived effects of stress on food choice. *Physiology and Behavior* 66(3):511-15.

Oliver, G., J. Wardle, and E.L. Gibson. 2000. Stress and food choice: A laboratory study. *Journal of Psychosocial Medicine* 62:853-865.

Rentfrow, P.J., C. Mellander, and R. Florida. 2009. Happy states of America: A state-level analysis of psychological, economic, and social well being. *Journal of Research in Personality* 43(6): 1073-1082.

Roach-Higgins, M.E., and J.B. Eicher 1992. Dress and identity. *Clothing and Textiles Research Journal* 10(4):1-8.

Saiki, D., and J. Kandiah 2006. Clothing and food purchasing trends among U.S. ethnic groups: 1980 to 2003. *Forum for Family and Consumer Issues* 11(2). Available at http://ncsu.edu/ffci/publications/2006/v11-n2-2006-december/ar-2-clothing.php Accessed on July 21, 2010.

SPSS Version 13. 2004. Chicago: SPSS Inc.

Stirling, L.J., and M.R. Yeomans. 2003. Effect of exposure to a forbidden food on eating in restrained and unrestrained women. *International Journal of Eating Disorders* 35(1):59-68.

Tanofsky-Kraff, M., D.E. Wilfley, and E. Spurrell. 2000. Impact of interpersonal and ego-related stress on restrained eaters. *Internatinal Journal of Eating Disorders* 27(4):411-418.

The American Institute of Stress. 2008. Effects of stress. Available at http://www.stress.org/topic-effects.htm Accessed on July 21, 2010.

Wagner, J., and H. Soberon-Ferrer. 1990. The effect of ethnicity on selected household expenditures. *Social Science Journal* 27(2):181-198.

Wansink, B., M.M. Cheney, and N. Chan. 2003. Exploring comfort food preferences across age and gender. *Physiology and Behavior* 79(4-5):739-747.

Wardle, J., A. Steptoe, G. Oliver, and Z. Lipsey. 2000. Stress, dietary restraint and food intake. *Journal of Psychosomatic Research* 48(2):195-202.

Table 1. Test-retest results to questions related to effort put forth by participants to control dressing and making healthy eating choices

Variables	Percent Agreement	Kappa Coefficient	Pearson's R
Typically dress fashionably	96.1	0.89*	0.89*
Typically dress casually (e.g. jeans)	94.1	0.55*	0.61*
Typically making healthy eating choices	92.0	0.75*	0.76*
Typically dress up (e.g. suit)	90.2	0.71*	0.74*
Maintaining appearance	74.5	0.56*	0.72*
Controlling eating (e.g. managing calorie food choices)	74.0	0.50*	0.80*
Planning and controlling dressing	56.0	0.34*	0.69*

*Significance $p \leq 0.001$

Table 2. Test-retest results to questions related to patterns of dressing and eating when stressed

Variables	Percent Agreement	Kappa Coefficient	Pearson's R
Dressing casually	94.2	0.38*	0.49*
Occurrence in the frequency of stress (sometimes, always or never)	86.2	0.65*	0.68*
Using food as comfort	80.4	0.56*	0.57*

Dressing up	80.0	0.39	0.42
Making healthy eating choices	78.4	0.57*	0.58*
Increasing or decreasing appetite	76.6	0.65*	0.70*
Dressing fashionably	73.5	0.49*	0.49*
Spending less time to prepare food	70.0	0.39	0.39
Using appearance as comfort	66.7	0.32	0.32
Spending less time to enhance appearance	66.7	0.33	0.32
Spending less time to get dressed	66.0	0.31	0.31
			0.33
Trying to enhance appearance	58.8	0.15	0.16

*Significance p≤0.001

Table 3. Test-retest results to questions related to patterns of eating when under non-stressful conditions*

Variables		**Percent Agreement**	**Kappa Coefficient**	**Pearson's R**
MIXED DISHES	**Tacos**	89.8	0.80	0.80
	Pizza	89.8	0.79	0.80
	Casserole	83.7	0.68	0.70
	Fast foods/restaurants	81.6	0.63	0.63

	Burgers/sandwich meats	81.6	0.42[a]	0.42[a]
	Ethnic foods	77.6	0.55	0.55
SALTY/CRUNCHY FOODS	**Potato chips**	86.3	0.73	0.73
	Pickles	86.2	0.72	0.72
	Nuts	84.3	0.61	0.64
	Raw vegetables	84.3	0.65	0.66
	French fries	78.5	0.57	0.57
	Cheese curls	78.4	0.16[a]	0.17[a]
	Pretzels	71.6	0.43	0.46
SWEET FOODS	**Fresh or canned fruit**	87.5	0.65	0.67
	Candy	83.4	0.64	0.67
	Ice-cream	83.3	0.67	0.69
	Muffins/sweet breads	81.3	0.60	0.61
	Desserts	81.2	0.62	0.62
	Chocolate/candy bars	79.2	0.58	0.58
CREAMY FOODS	**Yogurt**	96.0	0.92	0.92
	Pudding	94.1	0.85	0.85
	Peanut butter and jelly	94.1	0.88	0.88
	Apple sauce	92.2	0.83	0.83
	Pasta	88.2	0.51	0.51
	Grilled cheese	84.3	0.69	0.70
	Soups/stews	78.4	0.57	0.58
	Mashes potatoes	78.4	0.50	0.51

BEVERAGES	**Coffee**	91.7	0.75	0.78
	Alcohol	91.6	0.83	0.83
	Soda	89.6	0.78	0.79
	Tea	89.6	0.78	0.79
	Specialty coffee (e.g. latte)	85.4	0.64	0.67
	Hot chocolate	85.4	0.55	0.58

Significance $p \leq 0.001$; [a] Not significant

Table 4. Test-retest results to questions related to patterns of dressing when under non-stressful conditions

Variables		**Percent Agree**	**Kappa Coefficient**	**Pearson's R**
ACCESSORIES	**Belt**	95.9	0.92	0.92
	Wrist watch	95.8	0.90	0.91
	Earrings	91.9	0.73	0.76
	Necklaces	89.8	0.76	0.77
	Hair clips	83.6	0.64	0.64
	Bracelets	83.7	0.66	0.66
INFORMAL DRESS	**Jeans**	96.1	0.49	0.57
	Sweatpants	94.1	0.87	0.87
	Flip flops, sandals	92.1	0.46	0.48
	Tennis shoes	91.2	0.79	0.80
	Sweatshirt, hoodie	90.2	0.50	0.52
	Socks	90.2	0.76	0.78
	T-shirt/tank top	88.3	0.19[a]	0.19[a]
	Baseball cap	84.3	0.61	0.62

FORMAL DRESS	**Hosiery**	95.2	0.77	0.77
	Suits	92.7	0.73	0.76
	Dresses	92.7	0.80	0.80
	Closed-toed shoes	90.3	0.72	0.75
	Blouses	87.8	0.75	0.76
	Dress pants	86.5	0.60	0.62
	Skirts	85.4	0.63	0.63
MAKE-UP	**Eye linear**	100	1.00	1.00
	Foundation	100	1.00	1.00
	Eye shadow	89.8	0.76	0.76
	Blush	87.7	0.74	0.74
	Lipstick	87.7	0.69	0.70
	Nail polish	83.7	0.66	0.67
HAIR	**Hair products**	98.0	0.95	0.95
	Shave legs	98.0	0.80	0.81
	Curl/straightened hair	93.8	0.79	0.79
	Pluck hair	83.3	0.50	0.50
SCENT	**Perfume**	94.0	0.69	0.70
	Lotions	92.0	0.70	0.71
	Breath freshner	88.0	0.74	0.75

Significance $p \leq 0.001$; [a] Not significant

Table 5. Test-retest results to questions related to patterns of eating when under stressful conditions

Variables		Percent Agreement	Kappa Coefficient	Pearson's R
MIXED DISHES	**Pizza**	86.0	0.45	0.45
	Casserole	80.0	0.60	0.62
	Tacos	78.0	0.56	0.59
	Ethnic foods	76.0	0.51	0.52
	Burgers/sandwich meats	76.0	0.42[a]	0.43[a]
	Fast food/restaurants	74.0	0.40[a]	0.40[a]
SALTY/CRUNCHY FOODS	**Nuts**	96.3	0.61	0.62
	Cheese curls	84.3	0.57	0.58
	Potato chips	80.4	0.53	0.53
	Crackers	78.4	0.58	0.61
	French fries	78.4	0.45	0.45
	Pickles	74.5	0.44	0.48
	Raw vegetables	70.6	0.44	0.48
	Pretzels	62.8	0.26[a]	0.29[a]
SWEET FOODS	**Ice-cream**	87.8	0.65	0.66
	Muffins/sweet breads	85.7	0.66	0.66
	Desserts	81.7	0.61	0.62
	Chocolate/candy bars	71.4	0.30[a]	0.30[a]
	Fresh or canned fruit	63.5	0.44[a]	0.44

	Candy	63.2	0.26**	0.26[a]
CREAMY FOODS	**Apple sauce**	92.2	0.83	0.83
	Peanut butter and jelly	90.8	0.70	0.71
	Pudding	89.8	0.76	0.77
	Mashes potatoes	85.7	0.67	0.68
	Yogurt	85.7	0.68	0.70
	Pasta	79.6	0.15[a]	0.15[a]
	Soups/stews	74.4	0.48	0.50
	Grilled cheese	73.5	0.48	0.52
BEVERAGES	**Coffee**	91.9	0.77	0.79
	Alcohol	91.8	0.82	0.82
	Soda	89.8	0.70	0.71
	Tea	87.7	0.76	0.77
	Hot chocolate	85.7	0.52	0.59
	Specialty coffee (e.g. latte)	83.7	0.65	0.65

Significance $p \leq 0.001$; [a] Not significant

Table 6. Test-retest results to questions related to patterns of dressing when under stressful conditions

Variables		**Percent Agree**	**Kappa Coefficient**	**Pearson's R**
ACCESSORIES	**Wrist watch**	97.9	0.94	0.94
	Bracelets	93.7	0.83	0.83
	Earrings	91.7	0.79	0.79
	Belt	89.0	0.78	0.78
	Hair clips	83.4	0.64	0.64

	Necklaces	79.2	0.59	0.59
INFORMAL DRESS	**Sweatshirt, hoodie**	94.1	0.64	0.69
	Flip flops, sandals	92.2	0.56	0.56
	T-shirt, tank top	92.1	0.47	0.55
	Jeans	90.2	0.50	0.58
	Sweatpants	90.2	0.75	0.75
	Baseball cap	88.2	0.73	0.73
	Tennis shoes	83.3	0.63	0.64
	Socks	78.4	0.51	0.53
FORMAL DRESS	**Hosiery**	96.9	0.79	0.80
	Suits	93.8	0.64	0.68
	Closed-toed shoes	90.6	0.81	0.83
	Blouses	81.2	0.63	0.63
	Dress pants	78.1	0.55	0.58
	Skirts	75.1	0.49[a]	0.50[a]
	Dresses	75.0	0.51[a]	0.52[a]
MAKE-UP	**Lipstick**	95.6	0.85	0.85
	Foundation	93.3	0.85	0.85
	Eye linear	88.9	0.76	0.79
	Blush	88.8	0.78	0.78
	Eye shadow	80.0	0.58	0.58
	Nail polish	77.8	0.53	0.53
HAIR	**Curl/straightened hair**	88.7	0.66	0.67
	Hair products	86.0	0.70	0.71
	Pluck hair	67.5	0.34[a]	0.34[a]
	Shave legs	76.8	0.49	0.49

SCENT	**Perfume**	89.2	0.76	0.76
	Lotions	87.0	0.66	0.66
	Breath freshner	84.7	0.69	0.68

Significance p≤0.001; [a] Not significant

Table 7. Paired sample t-tests comparing dressing and eating patterns during non-stressful and stressful conditions.

Scales	**Non-Stressful**	**Stressful**	**t**	**Df**	**P**	**Changes ↑ or ↓**
Accessories	3.05 ±1.2	2.38±1.2	5.76	84	<0.001	↓
Appearance services	2.32 ±1.1	2.12±1.0	3.41	72	<0.001	↓
Formal dress	3.83 ±1.4	2.77±1.5	6.32	62	<0.001	↓
Hair	3.28 ±0.8	2.26±1.1	8.6	77	<0.001	↓
Informal dress	5.99 ±1.5	5.74±1.6	1.92	88	0.059	NS
Make-up	3.99 ±1.5	2.77±1.6	7.16	76	<0.001	↓
Scent	2.53 ±0.6	2.06±0.9	5.95	82	<0.001	↓
Beverages	2.28 ±1.1	2.49±1.2	-2.1	86	<0.038	↑
Creamy foods	4.17 ±1.6	3.80±1.8	1.82	86	0.073	NS
Mixed dishes	3.15 ±1.5	3.23±1.3	-0.705	87	0.483	NS
Salty/crunchy	3.13 ±1.4	3.31±1.6	-1.31	88	0.193	NS
Sweets	2.74 ±1.4	3.29±1.5	-4.16	85	<0.001	↑

Significance p≤0.001; NS=not significant

Table 8. Comparison of original and modified questions in the section related to effort put forth to control dressing and eating

Original Questions	**Modified questions**

When stressed do you try to enhance your appearance?	When stressed, do you try to make yourself look better when stressed?
When stressed, do you dress up (e.g. heels, suits, etc.)?	When stressed, do you dress formally (e.g. heels, suits, etc.)?
When stressed, does changing your appearance comfort you or relieve stress?	When stressed, does changing your appearance help you relieve stress?
When stressed, do you spend less time than you would ordinarily getting dressed?	When stressed, do you spend less time than you normally would getting dressed?
When stressed, do you spend less time than you would ordinarily enhancing your appearance?	When stressed, do you spend less time than you normally would enhancing your appearance?

Table 9. Comparison of original and revised questions in the section related to dress items worn and foods eaten when under non-stressful and stressful conditions

Original food list	**Revised food list**
MIXED DISHES * Burgers or sandwich meat items (e.g. steak, chicken) * Fast food/ restaurants	MIXED DISHES * Sandwiches * Hamburger * Fast food * Dine-in restaurants
SALTY / CRUNCHY FOODS * Cheese curls	SALTY / CRUNCHY FOODS * Deleted
SWEET FOODS *Chocolate /Candy bars	SWEET FOODS *Chocolate * Hard candies
INFORMAL DRESS *T-shirt/tank-top	INFORMAL DRESS *T-shirt * Tank-top

FORMAL DRESS * Skirts * Dresses	FORMAL DRESS * Skirts (knee-length or long skirts) * Dresses (knee-length or long skirts)
HAIR * Pluck hair	HAIR * Tweeze eyebrows