Thomas, J., O'Hara, L., Quadflieg, S., & Weissgerber, S. C. (2018). Acculturation, out-group positivity and eating disorders symptoms among Emirati women. *Eating and Weight Disorders*, *23*(2), 241-246. https://doi.org/10.1007/s40519-016-0358-5

Acculturation, out-group positivity and eating disorders symptoms among Emirati women

Justin Thomas[1], Lily O'Hara[2], Susanne Quadflieg[3] and Sophia Christin Weissgerber[4]

[1]Zayed University, UAE

[2]Emirates College for Advanced Education, UAE

[3]University of Bristol, UK

[4] New York University, Abu Dhabi, UAE

Corresponding Author:

Dr. Justin Thomas CPsychol. Ph.D.

Zayed University

Department of Natural Science and Public Health

PO BOX 144534

Abu Dhabi, United Arab Emirates

Email: Justin.thomas@zu.ac.ae

Telephone: +971 (0) 2 599 3616

Abstract

Western acculturation has been implicated in the development of eating disorders among populations living outside Europe and North America. This study explored the relationship between Western acculturation, in-group/out-group evaluations and eating disorders symptoms among female citizens of the United Arab Emirates (UAE). Emirati college women (N = 209) completed an affective priming task, designed to implicitly assess in-group (Emirati) and out-group (American) evaluations. Participants also completed the Westernization Survey, a widely used self-report measure of acculturation, and the Eating Attitudes Test (EAT-26). Across the whole sample, out-group positivity was correlated with higher levels of eating disorders symptoms. Participants classified as at risk for eating disorders showed a clear out-group preference (out-group positivity greater than in-group positivity). Western acculturation was also positively correlated with eating disorders symptoms. Overall, these findings lend further support to the acculturation hypothesis of eating disorders in the context of Emirati college women.

Keywords: Arab, Affective Prime, Acculturation, Eating Disorders, Identity

Acculturation, out-group positivity and eating disorders symptoms among Emirati women

Numerous studies suggest that Western acculturation plays a role in the development of eating disorders among populations outside Europe and North America (1-3). In the Arabian Gulf states (Saudi Arabia, the United Arab Emirates (UAE), Oman, Kuwait etc.) several studies report relatively high rates of eating disorders symptomatology (4-6). Furthermore, a small number of these Gulf-based studies suggest that Western acculturation is associated with elevated levels of eating disorders symptoms among citizens (7-9). Similarly, eating disorders among ethnic minority and immigrant populations within Western nations are also frequently explained in acculturative terms (10-12). However, the Western acculturation hypothesis requires further critical examination. Several studies have failed to find the anticipated relationship between acculturation and eating disorders symptoms (8, 13). There are even studies reporting the converse association. For example, among UK schoolgirls of Asian origin, eating disorders symptoms were associated with traditional, rather than Western cultural orientations (14).

One explanation for these discrepant findings is the reliance on self-report, typically questionnaire-based, measures of acculturation. Previous authors have suggested that when assessing topics such as cultural or group identity and acculturation, self-report measures can be particularly prone to reactivity or socially desirable responding (15-17). Implicit, task-based measures of in-group evaluation, such as the affective priming task, can circumvent socially desirable responding. Such implicit measures can help obtain a less reactivity prone assessment of how positively or negatively people feel about the groups they belong to compared to those to which they do not belong (18-21). The affective priming task is an implicit assessment in that it taps into processes that are thought to be automatic. Affective priming is said to occur when responses to a target (word or image) are facilitated by it being preceded by a prime congruent in affective valence (22).

To date, only one previous study has explored the relationship between in-group/out-group evaluations and eating disorders symptoms using an affective priming task (APT) (23). This study found that implicitly assessed out-group preference was positively associated with eating disorders symptoms, whereas questionnaire-based measures of identity and Westernization were not. However, other studies in the Gulf region have generally reported a positive association between variables reflecting explicitly assessed Western acculturation and eating disorders symptoms. For example, in a multiphase screening study undertaken in the UAE with 495 female high school students, watching Western television programs was positively correlated with eating disorders symptoms (9). Similarly, in a study of 1271 female high school students in Saudi Arabia, behavioral indicators of Western acculturation (i.e. having lived in a Western nation or speaking a European language) were positively correlated with eating disorders symptoms (8).

Western acculturation in the Gulf states is typically discussed with reference to revenues from oil and gas and the rapid programs of modernization these have fuelled. The UAE in particular has witnessed rapid and dramatic social and economic change since the commercial exploitation of oil and gas began in the early 1970s (24). These changes are far reaching and include potentially acculturative elements such as the indigenous population becoming a minority group (25), and the proliferation of educational institutions using English as the language of tuition (26). These, and other, rapid developments are viewed as having brought about a shift from ‘traditional’ to ‘modern’ lifestyles (9). Gordon (27) proposed four key aspects of the ‘modern lifestyle’ that might be implicated in the rise of eating disorders: (a) highly developed economies, or economies witnessing rapid market changes; (b) growth of global consumer culture with an increased emphasis on slenderness as a feminine body ideal; (c) increasing access to education and employment for females,

conflicting with traditional female gender roles, which are characterized by deference to family and submissiveness toward males; and (d) the emergence of new patterns of behavior that may contribute to weight gain, for example, high fat, calorie-dense diets and increasingly sedentary lifestyles. All four of these factors are, to varying degrees, characteristic of contemporary UAE society (28).

The present study aimed to explore the relationship between Western acculturation, in-group/out-group evaluations and eating disorders symptoms, using both self-report and implicit task-based assessments. Specifically, the implicit assessment comprised an image-based affective priming task, while the self-report measure relied on an adapted version of the Westernization Survey. Based on previous findings, it was hypothesized that Western acculturation and implicit out-group positivity would be associated with higher levels of eating disorders symptoms.

METHOD

Participants

The participating institutions, Zayed University and Emirates College of Advanced Education are government-funded universities, established for the education of UAE citizens. Participants were a convenience sample of female students studying health science and education courses. All were citizens of the United Arab Emirates (N = 209), with a mean age of 25.36 (SD = 4.51). In both institutions the language of tuition is English. All participants were bilingual in Arabic and English. Prospective ethical approval was granted for the study (ZU14045F). All participants gave informed consent.

Measures

All self-report measures were presented in English and Arabic simultaneously, with English on the left of the screen and Arabic on the right of the screen. All measures were translated and independently back translated by bilingual Masters level faculty.

Eating Attitudes Test (EAT-26): Eating disorders symptoms were assessed using the EAT-26 (Garner, Olmsted, Bohr, & Garfinkel, 1982). This 26-item scale is scored on a 6-point scale; scores range from 0 to 78. Elevated eating disorders symptoms are indicated by higher scores, with a score of 20 or above used to classify being at risk of eating disorders(29). The psychometric properties of the Arabic version of the EAT-26 have been extensively reported (23, 28, 30). The EAT-26 internal reliability in the present study was good ($\alpha = .89$).

Westernization Survey: Western acculturation was assessed using the Westernization Survey (31). This 18-item survey was originally developed as a measure of acculturation amongst Latino immigrants in North America. For the present study it was adapted to the Emirati context. The measure focuses on behavior, food, language and media consumption habits. Example items on the Westernization Survey include: "How often do you watch Khaleeji/Arabic TV shows?" and "How often do you speak to your friends in Arabic?" These items are repeated in such a way as to provide a Western sub scale, for example: "How often do you watch Western TV shows?" and "How often do you speak to your friends in English?" The relative frequency of engaging in Western and Arab/Emirati behaviors are scored on a scale from 1 (never) to 4 (always). Scores on each subscale range from 9 to 36. Total scores are calculated by subtracting the Western subscale from the Arab/Emirati subscale; higher scores indicate greater Western acculturation. Internal reliability scores for the Arab/Emirati and Western subscales in the present study were acceptable; $\alpha = .79$ and .77 respectively.

Implicit In-group/Out-group Evaluations. An affective priming task (APT) assessed implicit in-group/out-group evaluations. Relatively faster response times to positive compared to negative target words following out-group compared to in-group primes indicate implicit out-group positivity (IOGP) (32) The primes consisted of 12 common Emirati cultural icons (e.g. landmark buildings, popular cartoon characters, and the national flag) and 12 common American cultural icons (see figure 1). Target words were taken from the Affective Norms for English Words (ANEW) collection (33) and included 12 positive nouns (e.g. fun, party) and 12 negative nouns (e.g. pain, danger), matched for arousal and word length. The relative strength of the affective priming effect was computed as a D-score, consistent with the recommendations of Wentura and Degner (22). This score is based on the median response times (RT) to target words; all medians were calculated using the SPSS median function. The specific formula for calculating the D-score is as follows: D = (median RT for negative targets following American image primes – median RT for positive targets following American image primes) – (median RT for negative targets following Emirati image primes – median RT for positive targets following Emirati image primes). A D-score greater than 0 indicates an out-group (American) preference and higher D-scores indicate greater out-group positivity. A D-score less than 0 indicates an in-group (Emirati) preference and higher negative D-scores indicate higher in-group positivity.

Procedure

Upon arrival, an experimenter seated participants at a desk equipped with a computer displaying standardized instructions. All instructions and experimental stimuli were presented using a computerized application developed in Visual Basic version 10. The APT was set-up as a two-alternative, forced-choice procedure. Each trial began with a 1000 millisecond (ms) fixation of a cross in the center of the screen, followed by an image prime displayed for 300 ms, and then the target noun which was displayed until participants responded by pressing

either the P key to indicate a positive noun or the Q key to indicate a negative noun (see Figure 1). Participants initially completed a five-trial dummy run of the APT to ensure they understood the instructions. Participants then completed 96 trials which were equally distributed between positive and negative target nouns and uniquely randomized for each participant. After finishing the APT, participants completed the demographic questions, the EAT-26 and the Westernization Survey on the same computer.

Data analysis plan

Bivariate correlational analysis (Pearson's product moment) and linear regression were undertaken to explore the relationships between implicit in-group/out-group evaluation, Western acculturation and eating disorders symptoms. Additionally, an independent samples t-test was conducted to explore differences in Western acculturation and implicit in-group/out-group evaluation between those classified as at risk of eating disorders (scoring at or above the EAT-26 cut-off of 20) (N= 63) and those not at risk (scoring below the EAT-26 cut-off of 20) (N= 145).

RESULTS

In-group/out-group evaluation scores were normally distributed, as were Western acculturation scores. Eating disorder symptoms scores were slightly negatively skewed. Bivariate correlations revealed that implicit out-group positivity was associated with higher eating disorders symptoms (see Table 1). Western acculturation was also significantly correlated with eating disorders symptoms in the hypothesized direction. The effect size for both correlations was small.

To further explore the study's key hypotheses, a multiple linear regression was calculated with eating disorders symptoms as the dependent variable, and implicit in-group/out-group evaluations and Western acculturation as predictors. A significant model

was found, F (2,204) = 6.93, $p < .001$, with an R^2 of .253. Both implicit in-group/out-group evaluations ($p = .008$) and Western acculturation ($p = .011$) were retained as predictors of eating disorders symptoms, with unstandardized beta coefficients of .182 and.174 respectively.

(Table 1 here)

Participants at risk of eating disorders (N= 63) demonstrated greater out-group positivity, compared with those not at risk (N= 145), who demonstrated greater in-group positivity. This difference was statistically significant (t[206] = 2.49, $p = .013$) with a small effect size (Cohen's $d = .36$). Those at risk of eating disorders also demonstrated higher Western acculturation compared to those not at risk; these differences were also statistically significant (t[206] = 3.13, $p = .002$) with a small effect size (Cohen's $d = .46$) (see Table 2).

(Table 2 here)

DISCUSSION

Out-group positivity, as assessed with the APT, was associated with higher levels of eating disorders symptoms. Furthermore, participants classified as at risk of eating disorders demonstrated an out-group preference, while those classified as not at risk demonstrated an in-group preference. These findings support those previously reported by Thomas et al. using a similar APT to implicitly assess the association between out-group positivity and eating disorders symptoms(23). Specifically, both studies found that greater out-group positivity was associated with elevated eating disorders symptoms. Similarly, and in line with much

previous research, the present study also found an association between self-reported Western acculturation and eating disorders symptoms (5, 6, 8, 9). A subsequent regression analysis confirmed that both acculturation and out-group positivity additively contributed to prediction of eating disorders symptoms. These findings support the idea that various acculturative processes may play a role in the development of eating disorders among populations experiencing rapid socio-economic transition, such as the UAE (7, 8, 27, 34).

Future explorations of acculturative processes and eating disorders should begin to examine the specific factors that might underpin this relationship. Nasser for example, argues that the idea of 'westernization' could be more usefully broken down into factors such as consumerism, individualism, changing gender roles and increasing levels of alienation (35). Furthermore, being viewed as 'westernized' might also increase the likelihood of experiencing discrimination, victimization and a sense of 'not belonging' within the UAE context. From a social psychological perspective, a sense of belonging can be understood in terms of social identity. There is evidence that forming and holding a social identity protects individuals from low self-esteem (36, 37), which is widely viewed as a risk factor for the development of eating disorders (38).

The present study found clear support for the idea that Western acculturative processes are associated with eating disorders symptoms among Emirati college women. Furthermore, the fact that out-group positivity and higher Western acculturation were associated with eating disorders symptoms in ostensibly healthy students, suggests that these findings may have implications for eating disorders prevention. Measures of out-group preference and Western acculturation could be used to ensure that prevention initiatives are more tightly focused. Similarly, psycho-educational approaches to eating disorders prevention might include exercises aimed at exploring and fostering positive in-group evaluations in the UAE context.

Compliance with Ethical Standards

Funding: This research has received no funding

Conflict of interests: On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.

References

1. Nasser M. Screening for abnormal eating attitudes in a population of Egyptian secondary school girls. Social Psychiatry and Psychiatric Epidemiology. 1994;29:88-94.

2. Gordon RA. Eating Disorders: Anatomy of a Social Epidemic. 2nd ed. Oxford: Blackwell; 2000.

3. Musaiger AO, Al-Mannai M, Al-Lalla O. Risk of disordered eating attitudes among male adolescents in five Emirates of the United Arab Emirates. The International journal of eating disorders. 2014;47(8):898-900.

4. O'Hara L, Tahboub-Schulte S, Thomas J. Weight-related teasing and internalized weight stigma predict abnormal eating attitudes and behaviours in Emirati female university students. Appetite. 2016;102:44-50.

5. Musaiger AO, Al-Mannai M, Tayyem R, Al-Lalla O, Ali EY, Kalam F, et al. Risk of disordered eating attitudes among adolescents in seven Arab countries by gender and obesity: a cross-cultural study. Appetite. 2013;60(1):162-7.

6. Musaiger AO, Al-Kandari FI, Al-Mannai M, Al-Faraj AM, Bouriki FA, Shehab FS, et al. Disordered Eating Attitudes Among University Students in Kuwait: The Role of Gender and Obesity. Int J Prev Med. 2016;7:67.

7. Al-Adawi S, Dorvlo A, Burke DT, Al-Bahlani S, Martin RG, Al-Ismaily S. Presence and Severity of Anorexia and Bulimia Among Male and Female Omani and Non-Omani Adolescents. J Am Acad Child Adolesc Psychiatry. 2002;41(9):1124-30.

8. Al-Subaie AS. Some Correlates of Dieting Behaviour in Saudi Schoolgirls. Int J Eat Disord. 2000;28:242-46.

9. Eapen V, Mabrouk AA, Bin-Othman S. Disordered eating attitudes and symptomatology among adolescent girls in the United Arab Emirates. Eating Behaviors. 2006(7):53-60.

10. Robinson TN, Killen JD, Litt IF, Hammer LD, Wilson DM, Haydel KF, et al. Ethnicity and body dissatisfaction: Are Hispanic and Asian girls at increased risk for eating disorders? J Adolesc Health. 1996;19(6):384-93.

11. Nasser M. Comparative study of the prevalence of abnormal eating attitudes among Arab female students at both London and Cairo universities. Psychol Med. 1986;16:621-25.

12. Davis C, Katzman MA. Perfection as acculturation: psychological correlates of eating problems in Chinese male and female students living in the United States. Int J Eat Disord. 1999;25(1):65-70.

13. Hill AJ, Bhatti R. Body shape perception and dieting in preadolescent british asian girls: Links with eating disorders. Int J Eat Disord. 1995;17(2):175-83.

14. Mumford DB, Whitehouse AM, Platts M. Sociocultural correlates of eating disorders among Asian schoolgirls in Bradford. Br J Psychiatry. 1991;158:222-8.

15. Allport GW. The nature of prejudice. Reading MA: Addison-Wesley; 1954.

16. Brewer MB. The many faces of social identity: implications for political psychology. Polit Psychol. 2001;22(1):115-25.

17. Festinger L, Carlsmith JM. Cognitive consequences of forced compliance. J Abnorm Soc Psychol. 1959;58(203-211).

18. Fazio RH, Hilden LE. Emotional reactions to a seemingly prejudiced response: the role of automatically activated racial attitudes and motivation to control prejudiced reactions. Personality and Social Psychology Bulletin. 2001(27):538-49.

19. Fazio RH, Jackson JR, Dunton BC, Williams CJ. Variability in automatic activation as an unobtrusive measure of racial attitudes: a bona fide pipe line? J Pers Soc Psychol. 1995;69:1013–27.

20. Dovidio JF, Kawakami K, Johnson B, Howard A. On the nature of prejudice: automatic and controlled processes. J Exp Soc Psychol. 1997;33:510-40.

21. Shoda TM, McConnell AR. Having Explicit-Implicit Evaluation Discrepancies Triggers Race-Based Motivated Reasoning. Social Cognition. 2014;32(2):190-202.

22. Wentura D, Degner J. A Practical Guide to Sequential Priming and Related Tasks. In: Gawronski B, Payne BK, editors. Handbook of Implicit Social Cognition Measurement, Theory, and Applications. New York: Guilford Press; 2010. p. 95-116.

23. Thomas J, Quadflieg S, O'Hara L. Implicit out-group preference is associated with eating disorders symptoms amongst Emirati females. Eating Behaviors. 2016;21:48-53.

24. WHO. Country Cooperation Strategy for WHO and the United Arab Emirates 2005–2009. Cairo: WHO, 2006.

25. Fox JW, Mourtada-Sabbah N, Al-Mutawa M, editors. Globalization and the Gulf. London: Routledge; 2006.

26. Davidson C. Higher Education in the Gulf States: a historical background. In: Davidson C, Smith PM, editors. Higher Education in the Gulf States. London: SAQI in association with London Middle East Institute at SOAS; 2008. p. 59-75.

27. Gordon RA. Eating disorders East and West: A culture-bound syndrome unbound. In: Nasser M, Katzman MA, Gordon RA, editors. Eating Disorders and Cultures in Transition. New York: Brunner-Routledge; 2001.

28. Thomas J, Abdulrahman A, Khan S. Eating attitudes and body image concerns among female university students in the United Arab Emirates. Appetite. 2010;54:595-8.

29. Garner DM, Olmsted MP, Bohr Y, Garfinkel PE. The Eating Attitudes Test: psychometric features and clinical correlates. Psychol Med. 1982;12:871-8.

30. Schulte SJ, Thomas J. Relationship between eating pathology, body dissatisfaction and depressive symptoms among male and female adolescents in the United Arab Emirates. Eating Behaviors. 2013;14:**157–60**.

31. Stigler MH, Dhavan P, Dusen D, Arora M, Reddy KS, Perry CL. Westernization and Tobacco Use Among Young People in Delhi, India. Soc Sci Med. 2010;71(5):891–7.

32. Plant EA, Devine PG, Cox WTL, Columb C, Miller SL, Goplen J, et al. The Obama effect: decreasing implicit prejudice and stereotyping Journal of Experimental and Social Psychology

2009;45:961-4.

33. Bradley MM, Lang PJ. Affective norms for English words (ANEW). Gainesville, FL: The National Institute of Mental Health Center for the Study of Emotion and Attention, University of Florida.

, 1999.

34. Abou-Saleh MT, Younis Y, Karim L. Anorexia Nervosa in an Arab Culture. Int J Eat Disord. 1996;23:207-12.

35. Nasser M. Eating disorders across cultures. Psychiatry. 2009;8(9):347-50.

36. Crabtree JW, Haslam SA, Postmes T, Haslam C. Mental Health Support Groups, Stigma, and Self-Esteem: Positive and Negative Implications of Group Identification. Journal of Social Issues. 2010;66(3):553-69.

37. Jetten J, Branscombe NR, Haslam SA, Haslam C, Cruwys T, Jones JM, et al. Having a lot of a good thing: multiple important group memberships as a source of self-esteem. PloS one. 2014;10(5):e0124609-e.

38. Welch E, Ghaderi A. Eating Disorders and Self-Esteem. In: Andershed A-K, editor. Girls at Risk. New York: Springer; 2012. p. 35-56.

Table 1

Correlations and Descriptive Statistics For Key Study Variables

	M (*SD*)	Age	EAT-26	WS	IOGP
Age	25.36 (4.51)		.03	-.46	.01
EAT-26	14.17 (9.40)			.17*	.18*
WS	-4.73 (7.34)				.03
IOGP	0.53 (9.58)				

Notes. EAT-26 = eating disorders symptoms. WS = Westernization Survey. IOGP. = Implicit out-group positivity.

* $p < .01$.

Table 2

Mean scores (including their standard deviations) for key study variables by EAT-26 score status (above or below the screening cut-off of 20 indicating at risk of eating disorders). Cohen's d quantifies the size of the observed difference between participants scoring above or below the EAT-26 cut-off.

	Above EAT-26 Cut-off	Below EAT-26 Cut-off	Cohen's *d*
IOGP	1.94 (10.31)	-1.61 (9.07)	.36*
Westernization	-2.36 (7.82)	-5.76 (6.90)	.46**
Age	25.62 (4.88)	25.26 (4.37)	.07

Notes: IOGP = implicit out-group positivity. Higher IOGP scores indicate greater out-group positivity, IOGP scores above zero represent an out-group preference, and negative scores reflect an in-group preference.

* $p < .05$. **< .01

Figure 1. Sample trials from the affective priming task. The study prime was either a common Emirati cultural icon (e.g. men doing national dance) or US cultural icon (e.g. men playing national sport); target stimuli were nouns with an obvious positive or negative valence. Participants categorized target stimuli as positive or negative by pressing the P or Q key respectively.