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The Impact of Urbanization on Risk for Eating Disorders

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Abstract

Purpose: Urbanization has broadly been implicated in negatively impacting mental health, including risk for eating pathology and eating disorders. Understanding the specific mechanisms that contribute to risk for maladaptive eating behavior in the context of urbanization is essential to improving public health policy and guiding future clinical, research, and prevention efforts.

Recent Findings: This review of recent investigation related to the impact of urbanization on eating pathology highlights specific risk factors for eating disorders, including acculturation to Western standards of beauty, and food resources with associated body weight and body image concern.

Summary: Recommendations for clinical and research endeavors include improved specificity in defining urbanization, as well as increased sensitivity within community-based assessment of cultural and demographic variables that may impact eating behavior and risk for eating disorders.

Keywords

Westernization; Food Availability; Food Insecurity; Body weight; Body Image

Intrinsically linked with human behavior, urbanization represents an anthropological phenomenon which has existed over recorded history. As ostensibly social creatures, it is in our nature to communicate, to rely upon one another, and to forge communities in which to dwell together. While global existence historically includes a balance of rural and urban habitats, more recent evidence indicates a trend toward prolific, rapid urbanization [1]. While there is much to be gained from this progression, including exponential advancement in pooled resources and technology, it is critically important to recognize and investigate potential negative impacts borne out from these evolutionary patterns [2**].

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Conflicts of interest

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Substantial evidence supports negative consequences of urbanization on mental health, broadly related to increased incidence of factors such as homelessness, environmental pollution, substance abuse, and violence in urban environs [3]. Within the larger context of mental health, eating disorders (EDs) are some of the most debilitating disorders due to significant impairment, prolonged and costly course of illness, and highest mortality rates [4]. While there is little doubt that individual biological and genetic factors contribute to the etiology of EDs, it is critical that these disorders also be situated within macro-scale cultural and political contexts [5]. As EDs are an area of public health concern with potentially tremendous impact from urbanization, it is essential that we identify factors that incur greatest risk.

In this review of the body of recent literature in this domain, we highlight ED risk factors that appear to derive broadly from Westernization (e.g., shifting body ideals), here defined as acculturation to Western values. We also examine the relation between urbanization and food resources, with a focus on increased body weight, and associated body image dissatisfaction. We conclude with clinical implications and future research directions which may enhance understanding of the impact of urbanization on vulnerability for ED.

Westernization and Body Image

Studies exploring links between acculturation to Western values and EDs demonstrate greater incidence of body image distortion and eating pathology among those with increased Western exposure [6–8]. Some studies investigating this link have focused on the hypothesis that increased eating pathology is a result of internalization of a thin ideal, purportedly idealized in Western culture [9]. Any shift in body size ideals secondary to acculturation may contribute to weight perception errors and subsequent body image dissatisfaction.

Weight Perception.

Self-comparison with a thinner ideal may lead to errors in weight perception and increased engagement in weight control practices (WCP), a hypothesis recently tested in a large national survey of adolescents (N = 28,266) in Mexico [10]. This study examined associations between socio-cultural factors and WCP, mediated by weight perception. Findings indicated that students with highly educated mothers were more likely to perceive themselves as overweight, and to engage in WCP. The effect of maternal education on WCP remained significant after adjusting for weight perception among boys, but not for girls. While education may typically reflect a *positive* benefit of urbanization, further inquiry is warranted to better understand how it may be influencing WCP for young Mexican males.

Further examination of weight perception and its influence on reported eating pathology among Kuwaiti college females (N = 1,147) found that distorted weight perception was evident across all weight classes. Further, students who perceived themselves as overweight or who incorrectly estimated their weight status reported elevated eating pathology, regardless of weight status [11]. The authors concluded that the high proportion of ED pathology among Kuwaiti college females could not be attributed to obesity alone, but instead was more likely due to a combination of social influences (e.g., Western media), and diet transition (i.e., shift to a more Western diet).

Body Image Dissatisfaction.

Large-scale examination of maladaptive eating behavior sampled mostly from North America and Western Europe until approximately two decades ago, when body dissatisfaction was first demonstrated among South African youth, individuals not previously considered vulnerable to developing ED pathology [8]. Twenty years hence, a study of young adult females (aged 18–23) residing in rural (n = 509) and urban (n = 510) South Africa assessed reported eating pathology and physical activity [12]. Results indicated that urban females were more likely to be overweight and obese than rural counterparts, with a greater desire to be thinner. In both groups, elevated weight status positively associated with a desire to be thinner, and negatively associated with a desire to be heavier. In a structural equation model pooling across the sample, increased body image dissatisfaction was associated with greater eating pathology, as well as increased physical activity. The model also demonstrated a direct effect of physical activity on *lowering* desire to be thinner and eating pathology, suggesting that increased exercise may be protective against ED. The authors note that in both settings, findings support a shift to more Western (i.e., thinner) body ideals.

Investigation of college females in urban Malaysia (N = 371) examined associations between sociocultural factors and body image dissatisfaction [13]. Results indicated that increased use of Westernized technology (i.e., social networking services such as Facebook) exerted a stronger negative influence on body image, moreso than factors such as ethnicity or religion. Another examination of Malaysian (n = 399) and Australian (n = 421) females, aged 18–25, tested the Tripartite Influence Model, which posits that sociocultural factors (e.g., media, peers) lead to internalization of the thin ideal, which then contributes to body dissatisfaction [14]. While the model was supported by both Malaysian and Australian females, family influence was linked with internalization of the thin ideal only for Malaysian participants. Further, body dissatisfaction was related to restrained eating for Australian, but not Malaysian females. Taken together, evidence from these few recent studies support the notion that an internalization of a Western thin ideal may be a broad, cross-cultural phenomenon that impacts body dissatisfaction and engagement in WCP.

Trends in Eating Disorder Epidemiology

Three longitudinal examinations evaluated trends in ED prevalence in geographical regions that have recently experienced both urbanization and Westernization. One of these studies, secondary data analysis of a 2016 Global Burden of Disease study in India, indicated elevated prevalence rates of AN among girls aged 15–19, with a male to female ratio of 1:4 [15]. These rates rose from 1990–2016, and included 55 deaths from AN. While the preponderance of AN was found among females, mortality rate did not differ across gender. The author concluded that the expanding burden of AN could be attributed to Western influence on the burgeoning fitness industry and media in promoting fitness and body image dissatisfaction in India. The author also notes that a ‘non-fat phobic’ variant of AN has been noted in India and in other Asian regions, suggesting that providers ought to implement community-based screening for ED, noting culturally-specific nuances.

Drawing from the National Health Research Institute research database in Taiwan, an epidemiological study evaluated treatment-seeking patients with ED (aged 11–34) receiving an ED diagnosis via ambulatory visits or hospitalization between 2001–2012 [16]. Results indicated that the prevalence of EDs was higher among females, with a peak at ages 20–24 and 25–29 for females and males, respectively. Across gender and time, rates of AN doubled and nearly tripled for bulimia nervosa (BN); notably, rapidity of this rate increase was particularly evidenced among young males. A rise in BN diagnoses among males may be reflective of an increase in excessive exercise, a symptom related to muscularity-oriented body dissatisfaction [17]. The authors note that Western values of leanness and muscularity continue to exert global influence via media, which may be a risk factor for EDs among East Asian men who are experiencing urbanization.

A retrospective review of patients in Japan compared prevalence rates and clinical characteristics, with ED diagnoses updated to reflect DSM-5 diagnostic criteria [18]. Participants were patients documented from 1963–1974 (n = 26), 1975–1984 (n = 97), 1985–1994 (n = 540), and 1995–2004 (n = 700). Across time, the number AN, BN and binge eating disorder diagnoses increased, as did the frequency of binge eating and purging behavior. The authors note that while Western influence is thought to contribute to a global rise in ED presentation, some historic factors that coincide with ED trends in Japan do not entirely support this hypothesis. For example, all patients in this study diagnosed with AN in the 1960s reported fat phobia and disturbed body image, but none reported dieting for thinness. The authors note that dieting was not common in the 1960s because food supply was insufficient, and thinness was not a beauty standard for young Japanese females at that time. However, evidence of binge eating and purging behaviors appeared in the mid-1970s and markedly increased thereafter in the current study sample, quite possibly as a result of dietary change from low-fat Japanese-style food to higher-fat Western food in 1975. Further, food has been available in 24-hour vending machines in Japan since 1985; these examples of dietary transition and food availability along with increased report of desire for thinness might explain rapid rise in weight and subsequent compensatory WCP in Japan over the last few decades.

In each of these three studies, ED rates appear to be rising, with various hypotheses posed as to what extent this may be due to factors within and beyond both urbanization and Westernization, including changes to diet and food availability and standards of beauty. Further, while any combination of these influences may be necessary for the development of EDs [19] these factors are unquestionably changing over time.

Food Resources

Elevated body weight has been consistently associated with increased body image dissatisfaction and subsequent risk for ED [20]. Increased body weight may result from economic factors related to urbanization, and its impact on food resources [21]. Notably, and discussed below, *both* food availability and food insecurity (FI) may impact eating behavior and body weight. Further, urbanization and migratory patterns may impact dietary transitions, with secondary influence on body weight and risk for ED [22]. Comprehensive review of the impact of urbanization on FI is beyond the scope of this manuscript, but has

been recently summarized with indications that urban dwelling may significantly impact eating behavior [23*]. However, FI is a conundrum with remarkable complexity that extends far beyond simply availability. For example, individuals may live in urban 'food deserts' (i.e., where the population is primarily low income and lacks access to adequate or affordable food) *and* 'food swamps' (i.e., areas proliferated with fast-food, and highly palatable food with increased fat, sugar, and salt). The combination of these factors may lead to a paradox of poverty with overweight, and a growing public health concern associated with urbanization [24*].

Food Insecurity.

Considered a global problem, FI is prevalent in urban areas, and can sometimes be more severe than in rural areas, particularly in Sub-Saharan Africa, South, East, and Central Asia, and Latin America [23*]. In the United States, where FI occurs in the context of increased poverty and related stress, often in areas dense with foods that are highly palatable (e.g., fast-food), it is reasonable to hypothesize that this combination may contribute to binge eating behavior, and subsequent obesity [24*]. It has also been posited that individuals with FI alternate between food availability and scarcity, a cycle which has been shown to lead to weight gain via overeating during times of unlimited food access. Recent study of FI in the United States queried adult clients of a food bank in urban Texas ($N = 503$) [24*]. Results indicated that participants with greatest FI (i.e., adults reporting hungry children in their household) also endorsed increased binge eating, overall ED pathology, any-reason dietary restraint, weight self-stigma and worry compared to counterparts with reduced FI. In this sample, extreme dietary restriction in the most food-insecure group may have led to increased binge eating behavior, which in turn might motivate compensatory behaviors to reduce discomfort. This is one possible explanation for this pattern of behavior, but as it is the first study of its kind, future investigation is warranted to better understand how FI contributes to eating pathology.

Dietary Transition.

Dietary transition can occur for a host of reasons, including a larger-scale food industry, supply and demand, expansion of supermarkets and marketing, increasing income and employment pressures, and activity levels – all of which may be byproducts of urbanization impacting eating patterns and health outcomes [21]. In Tanzania, a country currently experiencing rapid urbanization, a national survey of diet transition ($N \sim 16{,}000$) indicated that moving to an urban area did not influence intake of fats, animal-source foods, or dietary diversity [22]. However, those moving to urban areas did experience a shift away from the consumption of traditional staples, and toward foods that were higher in sugar, and more conveniently consumed and prepared. Other factors that exerted the greatest influence on unhealthy food consumption were transition out of farming, food prices, and in particular, income changes.

Consistent themes emerge across these studies of urbanization and food resources including the coexistence of highly palatable foods, which lack nutritional value and contribute to weight gain, and eating pathology. Further, it may well be the impact of income change in urban environs that is particularly influential in transitioning toward a more Western diet

[22], suggesting that future investigation should include focus on the impact of economic factors on ED risk.

Clinical Implications and Suggestions for Future Research

Across the globe, urban environments are becoming increasingly obesogenic [21]. Body weight is a global public health concern, particularly given associated medical complications and costs [25]. Further, obesity has been consistently linked with increased body dissatisfaction, and compensatory WCP. In geographical regions where urbanization is prolific, acculturation and related dietary transition may lead to weight gain and risk for ED [20]. Accordingly, primary care and mental health providers who may not previously have been attuned to this vulnerability should consider regular screening for ED pathology at the community level, across all weight statuses.

As highlighted within this review, the emergence of EDs in the context of urbanization has been viewed as a by-product of Westernization. However, recent commentary on this association points to the conundrum that limited studies have adequately defined Westernization, or focused specifically on distinguishing economic growth and other factors integral to urbanization from Westernization [26]. Furthermore, it remains unclear how, even once defined, Westernization may specifically incur risk for EDs, beyond the impact of urbanization. It is essential that future examination differentiate between Westernization and other terms including industrialization, urbanization, and globalization. Relatedly, given increases in both urbanization and migration, it is essential that indices of disordered eating assessment be employed in a culturally sensitive manner, and include moderating cultural and demographic factors.

Summary and Conclusions

A balance of recent evidence appears to provide more questions than answers in determining the impact of urbanization on eating pathology. The notion that EDs are a by-product of acculturation to Western ideals is superficial; looking below the surface, there are patterns that support this theory. For instance, in migrations to urban environs, changing standards of beauty and body size can include internalization of a (Western) thin ideal, as well as errors in weight perception, increased body dissatisfaction, and weight control behaviors. Relative to economic status in urban environs, food resources and dietary transition to a highly palatable (Western) diet may lead to increases in binge eating, body weight, and subsequent body image concerns. However, it is too simplistic to identify these patterns of behavior as merely attributable to Westernization, as evidence from epidemiological study suggests numerous historical and sociocultural factors that impact prevalence of EDs. Moving forward, a ‘cultural understanding’ of urbanization will be essential in considering how best to detect, prevent, and offer treatment for EDs in our rapidly shifting global existence [27,28].

- Westernization, often co-occuring with urbanization, is shown to negatively impact body image, weight perception, and body image dissatisfaction, all of which are risk factors for eating disorders.

- In countries that have recently experienced urbanization and Westernization, prevalence rates of eating disorders have increased.
- Urbanization impacts food resources, food availability, food insecurity, and dietary intake of those in urbanizing areas; these changes may lead to increases in body weight and binge eating.

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