



# Virginia Henderson

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# INVESTIGATING VULNERABILITY FOR DEVELOPING EATING DISORDERS IN A MULTI- CONFESSIONAL LEBANESE SAMPLE

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# BACKGROUND

- The rising incidence of eating disorders (ED) has become a public health concern worldwide (Derenne and Beresin, 2006).
- A problem once limited to the West is now found to affect females in most regions of the world, including the Middle-East (Zeeni et al., 2012).



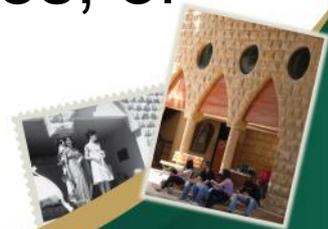
# BACKGROUND

- Arab female university students have been reported to exhibit high levels of body image dissatisfaction and preference for thinness (Yahia et al., 2011).
- Prevalence rates of ED were estimated to range between 16.2 and 42.7% among female adolescents and young adults in the Middle-East (Musaiger et al. 2013).



# BACKGROUND

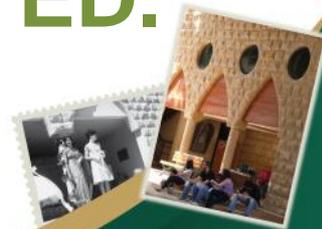
- Eating disorders are often diagnosed in pediatric clinics or during health care visits.
- However, ED is underreported in the college setting. Most students have subclinical levels of ED symptomatology (Hoyt & Ross, 2003).
- These subclinical levels, often referred to as **dysfunctional eating** (DE), include some form of unhealthy weight regulation behaviors, such as skipping meals, avoiding fats/carbohydrates, or fasting.



# Literature Review: Synthesis

- The prevalence of young adults with **DE** was **found to be higher** than that of individuals suffering from full syndrome eating disorders (Forney & Ward 2013).
- In addition, young adults **with DE** engage in the same disturbed eating behaviors and often progress to **full syndrome ED.**

(Forney & Ward 2013).

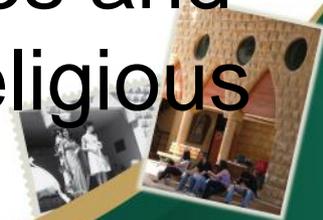


# Literature Review: Synthesis

- **Stress and body image dissatisfaction (BID)** have been found to be the two most noticeable predisposing factors for the development of ED and DE (kandiah et al. 2006; Loth et al. 2008).
- BID has been shown to increase the vulnerability to DE patterns (Juarascio et al. 2011) as well as depressive symptoms (Ferreiro et al. 2012).
- Between 51 and 66 % of individuals with DE are at increased vulnerability for affective or anxiety disorders (Buckner et al. 2010).



- Religiosity has been noted in many studies to play a protective role against a variety of psychological and physiological illnesses (Afifi et al. 2011; Hackney & Sanders 2003).
- Higher religiosity was found to be linked to lower anxiety, fewer negative health outcomes and enhanced well-being (Annalakshmi & Abeer 2011)
- The limited empirical research on the relationship between religiosity and ED has been conducted in developed countries and with populations of Judeo-Christian religious affiliations.



# GAP IN THE LITERATURE

- This leaves **a gap** in our understanding of the role that intrinsic and extrinsic religiosity may play in the development of pathological eating in a religiously diverse population such as Lebanon, which is a melting pot of a multi-confessional population identified by 18 religious communities of Christians, Muslims, and Druze (Chaaya et al. 2007).



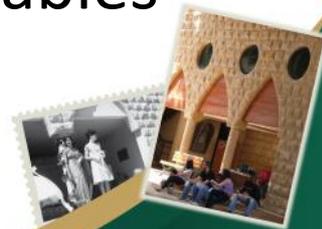
# GAP IN THE LITERATURE

- Research in the field of DE remains limited in the Middle East and **little is known** about the possible role of religiosity and other socio-cultural factors in the etiology of DE.
- Various predisposing factors have been suggested as precursors to ED, yet there is little consistency among empirical evidence to support most of these claims (Stice 2002).
- This will be the first study to examine the effects of stress, anxiety, depression, BID, DE and religiosity simultaneously and to determine the best predictors of ED.



# RESEARCH OBJECTIVES

- (1) To determine the predisposition to ED among Lebanese female young adults.
- (2) To determine the associations between ED vulnerability and religiosity and religious affiliations **while controlling for** stress, depression, anxiety, DE (emotional, restrained and external eating), activity level, body mass index and body image dissatisfaction.
- (3) To determine whether religiosity mediates the relationship between the above mentioned variables and ED vulnerability.



- Because of the unique characteristics of Lebanon as a melting pot of 18 religious sects, this research is uniquely placed to extend the research on religiosity and ED beyond developed countries and Judeo-Christian populations.



# METHODOLOGY

- Cross-sectional descriptive correlational design.
- Data were collected in one academic semester in fall 2013 at the Lebanese American University which accommodates the cultural and religious diversity of the country.
- 80.22 % of LAU students were Lebanese citizens.
- 19.78 % of the student population, international, representing 83 different nationalities in Fall 2013



# METHODOLOGY

- All students enrolled in all English courses were initially approached to complete the survey.
- Out of the 2464 students enrolled, 1013 agreed to participate in the study on both campuses.
- 18–25 year-old female students of Lebanese nationality.
- Participants were recruited in their classrooms during regular college hours. All subjects provided informed consent for their participation in the study.
- Students were informed that their participation in the research was voluntary and would not affect their status at the University.



# DESIGN

Descriptive Correlational Cross-Sectional Design

## SAMPLE SIZE

Power analysis  $\longrightarrow$  752 students

(Assuming a response rate of 75%, a total sample of 1002 was needed)

## SETTING

LAU-Beirut and Byblos campuses



# INSTRUMENTS

- Perceived Stress Scale(PSS-10)(Cohen et al.,1983).
- The Contour Drawing Rating Scale (CDRS) (Thompson & Gray, 1995)
- Dutch Eating Behaviour Questionnaire (DEBQ) (Van Strien et al., 1986)
- State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA) (Großs et al.,2007)
- Center for Epidemiologic Studies Depression Scale (CES-D-Revised) (Eaton et al., 2004)
- Religious Orientation Scale-Revised (Gorsuch and McPherson,1989)
- Eating Attitudes Test (EAT-26) (Garner et al., 1982).



# INCLUSION CRITERIA

- Female college students
- Aged 18-25 years
- Lebanese nationality
- Enrolled in Fall 2013 term at LAU
- Taking an English class



# RESULTS

- 949 female students of which 59.5 % sophomores, 12.26 % freshman, 15.77 % juniors, and 11.65 % seniors.
- 73.9 % lived with their families.
- 33.8 % had parents with a high monthly income (\$4000).
- 57.87 % reported exercising 1–3 h per week while 25.12 % exercised 1 h per week and 19.39 % exercised more than 3 h per week.
- Muslims (49.24 %), followed by Christians (39.49 %), Druze (8.74 %) and Other (2.53 %).



# RESULTS

- Results showed that anxiety had the greatest effect on increasing the predisposition to ED, followed by stress level, BID, depression and restrained eating.
- Affiliating as Christian was found to significantly decrease the vulnerability to developing an ED.
- The interaction of anxiety with intrinsic religiosity was found to have a protective role on reducing ED.
- The current study emphasized a buffering role of intrinsic religiosity against anxiety and ED vulnerability.



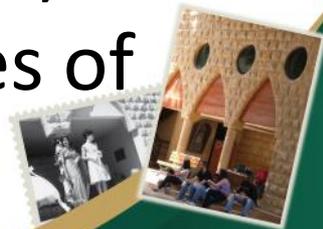
*Odds Ratios and 95% Confidence Intervals (CI) for Body Image Dissatisfaction (BID), Activity Level, Religion (Christian, Druze and others), Restrained Eating, Stress, Anxiety, Depression, Intrinsic Religiosity, and Extrinsic Religiosity (N=949).*

	<b>Estimate</b>	<b>Odds Ratio</b>	<b>Odds Ratio (95% CI)</b>	<b>P-value</b>
<b>Restraint Eating</b>	0.09	1.10	1.08-1.12	<0.001***
<b>Stress</b>	0.04	1.04	1.01-1.09	0.04*
<b>Depression</b>	0.01	1.02	1.00-1.03	0.01*
<b>Intrinsic Religiosity</b>	-0.01	0.99	.94-1.04	0.56
<b>Anxiety</b>	3.11	<b>22.43</b>	2.98-178.27	0.002***
<b>Body Dissatisfaction</b>	0.25	1.28	1.09-1.50	0.001***
<b>Religion: Christian</b>	-0.51	0.60	0.41-.88	0.009***
<b>Religion: Druze</b>	-0.32	0.73	0.39-1.31	0.30
<b>Religiosity: Other</b>	0.98	2.66	0.55-13.69	0.22
<b>Activity Level</b>	0.11	1.11	0.99-1.26	0.08
<b>Intrinsic-Religiosity: Anxiety</b>	-0.09	0.91	0.84-.97	0.008***



# DISCUSSION

- Among the 3 DE, **only restrained eating** was found to significantly increase vulnerability to ED among Lebanese young adults. This finding is in agreement with previous findings showing that dietary restriction is a predisposing factor for binge eating, as well as clinically diagnosable ED.
- The prevalence of ED vulnerability (21.2 %) in the current study is comparable with rates of other Arab countries.



# DISCUSSION

- Restraint, external and emotional eating scores obtained in our sample were very close to the results recently obtained in a sample of Japanese university students (Ohara et al. 2014) but were higher than the scores obtained in French (Bailly et al. 2012) and Portuguese (Vidal 2006) university students.
- The extrinsic religiosity was not found to significantly affect the likelihood of ED vulnerability or to interact with anxiety. This finding was consistent with the existing literature that examined the effectiveness of spiritual approaches on ED treatment, particularly for religiously devout clients.



# SUMMARY

- ED vulnerability is moderately high and that anxiety and BID are its two strongest predictors in Lebanese female young adults.
- Restrained eating stress, depression, and the interaction between intrinsic religiosity had important associations with ED vulnerability in this population.
- Affiliating as Christian was significantly negatively associated with ED vulnerability.
- Further studies are needed to explore the buffering relationship between affiliating as Christian and ED vulnerability.



# LIMITATIONS

- The analysis is based on self -report that could be influenced by social desirability bias (Hill & Pargament, 2003) especially in a country where religion pervades almost every aspect of daily life.
- The study is cross-sectional in nature, and therefore any relationships suggested between variables are purely associations (not causation) for consideration.
- Another limitation is the lack of information on participants' drug usage and whether they have any diagnosed chronic illnesses and/or psychiatric disorders.



# Implications for Nursing Knowledge and practice

- At the national level, the present study provides information on ED and disordered eating in a non-clinical population for the first time in Lebanon. On the basis of the findings of this study, a need for screening and health intervention related to ED in colleges in Lebanon has been identified.
- At the international level, to our knowledge this is a hallmark study in this part of the world using an intrinsic-extrinsic religiosity scale applicable for the religious affiliations: Christians, Muslims, Druze and Other.



# Implications for Nursing Knowledge and practice

- It is our hope that this study becomes **the first step** in the reevaluation of the role of intrinsic religiosity in the examination of ED.
- Research to come should be longitudinal, ultimately using religiosity as a therapeutic tool for a sub category of young adults vulnerable for developing ED.



*May you be richly  
blessed*



# Definitions of Variables

- **A vulnerability or a predisposing factor** is a variable that is believed to cause a disorder to develop. Usually, vulnerability factors lie dormant during the life of an individual, but when activated by sufficient life stress, can initiate the development and propagation of a disorder.
- **Body image dissatisfaction (BID)** refers to the negative subjective assessment of one's own body which results from the pressures that society places on an individual in terms of thinness and the deviation from the socio-culturally placed ideals for body shape (Glauert et al. 2009; Stice and Shaw 2003).



# Definitions of Variables

- Religiosity has been defined in several ways with some authors differentiating between extrinsic and intrinsic religiosity.
- **Extrinsic religiosity** refers to apparent religious activities or individual behaviors related to religion, such as praying and fasting (Cotton et al. 2006)
- **Intrinsic religiosity** refers to a self-concept of religiosity and the personal importance and impact of religion on everyday life (Aukst-Margetic' and Margetic' 2005).

