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Assessing the Psychometric Properties of an Instrument Measuring Internalized Weight Bias Among Foreign-born Asian Adults

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Background: Internalized weight bias (i.e., the application of negative weight-based stereotypes to one's self-evaluation), is known to be associated with adverse physical and mental health outcomes. The 10-item version of the Modified Weight Bias Internalization Scale (WBIS-M10) is frequently used to measure internalized weight bias. However, research assessing the psychometric properties of the instrument among diverse U.S.-based populations is limited. The current study sought to examine the factor structure of the WBIS-M10 in a sample of foreign-born Asian adults.

Methods: Respondents electronically completed the WBIS-M10. The factor structure was assessed using **confirmatory factor analysis** and internal reliability was estimated using McDonald's omega. After reaching an acceptable fit, a **multiple indicator multiple cause (MIMIC) modeling approach** was used to examine gender identity, subjective weight status, and length of residence in the U.S. as predictors of internalized weight bias.

Key Participant Demographics (n = 118)

Age (years): *M* = 30, *SD*= 6.1	Length of residence in the US:
	< 10 years (*n* =64, 54%)
Gender identity:	≥ 10 years (*n* =54, 46%)
Men (*n* =44, 37%)	
Women (*n* =74, 63%)	
Education:	27 different countries of origin:
Bachelor's degree or higher (*n* =76, 64%)	Largest percentages born in India (*n* = 35,
Perceived weight status	30%) the Philippines (*n* = 30, 25%), China (*n*
Not overweight (*n* =88, 75%)	= 8, 7%), and Korea (*n* = 8, 7%).
Overweight (*n* =30, 26%)	

Results: A 9-item version was the best fit to the data ($x^2_{SB}(26)=34.76$, *p*=.117, RMSEA=.054, CFI=.986, SRMR=.034). Included items loaded significantly onto a single factor (≥ .79). McDonald's omega was .96, indicating strong internal consistency reliability. The MIMIC model fit the data well ($x^2_{SB}(50)= 63.73$, *p*=.092, RMSEA=.054, CFI=.983, SRMR=.037). Identifying as a woman (β=.18, *p*=.023) and perceiving oneself as overweight (β=.44, *p*<.001) were associated with greater internalized weight bias. No association was found between length of residence and internalized weight bias (*p*>.05).

Conclusion: Providers working with Asian immigrants should be aware of potential weight-related concerns and may consider using a 9-item version of the WBIS-M to assess for internalized weight bias.

Results provide preliminary support for a **9-item version** of the **Modified Weight Bias Internalization Scale**. Among **adult Asian immigrants** living in the United States, identifying as a **woman** and perceiving oneself as **overweight** were associated with **greater internalized weight bias**.

Figure 1
Measurement Model for 9-item WBIS-M with Factor Covariates

Gender identity: Woman — β= .18*
Subjective weight status: Overweight — β= .44***
Length of residence in US: ≥ 10 years — β= .03

Modified Weight Bias Internalization Scale

.83 — I am less attractive than most other people because of my weight — e1
.79 — I feel anxious about my weight because of what people might think of me — e2
.82 — I wish I could drastically change my weight — e3
.89 — Whenever I think a lot about my weight, I feel depressed — e4
.88 — I hate myself for my weight — e5
.87 — My weight is a major way that I judge my value as a person — e6
.84 — I don't feel that I deserve to have a really fulfilling social life, because of my weight — e7
.87 — Because of my weight, I don't feel like my true self — e9
.85 — Because of my weight, I don't understand how anyone attractive would want to date me — e10

Note. Factor loadings are presented in standardized form. Factor loadings are all significant (p < .05).
*p < .05. ** p < .01. *** p < .001.