



Acculturative Stress Across Disordered Eating Behaviors: A Meta-Analysis

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Abstract

The relationship between Acculturative Stress (AS) and Disordered Eating Patterns (DE) remains ambivalent due to the lack of a uniform construct, theoretical framework, and standardized measurements for AS. The present meta-analysis aimed to address the quantitative gap in the literature by examining the correlation between AS and DE reported by past studies. A total of 17 eligible studies were included in our meta-analysis. Across all study samples, there were 3,991 participants with 92% of them being females. The overall weighted effect size of AS and DE was $r = .186$. Subgroup and moderation analyses were run to investigate the substantial heterogeneity detected between studies ($Q = 72.16, I^2 = 77.8%$). One subgroup analysis that yielded a significant finding, which were studies that used the Social, Attitudinal, Familial, and Environmental (SAFE) scale to measure AS differed significantly from those that used other scales ($p = 0.002$). Age, region, clinical status, and sample size did not significantly moderate the relationship between AS and DE. Studies that used the SAFE versus Non-SAFE scales revealed a significant moderator for the correlation between AS and DE ($r = -0.2, p = 0.001$) and was responsible for 55% of the variances between studies ($R^2 = 0.55$). These results provide insight into the methodological issues of AS research in relation to DE.

Background and Aims

Background Information

Disordered eating (DE) behaviors such as food restriction, binge eating, and purging occur in clinical and non-clinical populations (Masuda 2004; Kesby et al., 2019; Ciszewski et al., 2020).

DE is associated with a myriad of negative psychological and physiological health problems, such as heart disease, diabetes, and depressive symptomatology (Thome et al., 2004).

- Although DE patterns themselves do not justify an eating disorder diagnosis, elevated levels can place one at risk for developing a diagnosable eating disorder

The association between acculturative stress (AS) and disordered eating (DE) is less studied compared to other mental disorders such as major depression disorder and substance use disorder (Carter et al., 2019).

Theories suggest that AS functions as a potential exacerbator for maladaptive eating patterns, including stressors such as:

- Immigrating to another country
- Speaking a language other than their "mother" tongue
- Displaced from built social support system (Claudat et al., 2016).

Maladaptive eating constructed as a coping strategy when individuals are facing high amount of stress that comes from the process of acculturation itself.

Results

	N	Percentage of Females	Country/Ethnic Origin	DE Measure	AS Measure	Effect Size
Akourty et al. (2019)	430	100%	Asian American	EDE-Q	SAFE	0.36
Aldalur and Schooler (2019)	96	100%	U.S.A.	EDI	DAS, SAFE	0.25
Betterdorf et al. (2009)	209	100%	South America	EDI-BD, EAT-26, BULIT-R	ARSM-A-II	0.02
Brokhoff et al. (2012)	232	57%	Japanese students	Body Dissatisfaction Measure, Body Change Inventory, EAT-26	Adapted version of the VIA	0.03
Cachelin et al. (2006)	188	100%	Mexico	SCID-IV-TR and EDE	MEIM, ARSM-A-II	0.36
Claudat et al. (2016)	638	100%	U.S.A.	EDE-Q	SAFE	0.30
Gordon et al. (2010)	276	100%	U.S.A.	EDI-BD, EDI-DFT, EDI-B	SMAS, SAFE	0.22
Higgins et al. (2016)	119	100%	U.S.A.	EDE-Q	SAFE, SRE	0.22
Kroon (2014)	247	100%	U.S.A.	EDI-BD, EDI	SAFE	0.25
Kwan et al. (2018)	187	58.80%	U.S.A. + International student	EDE-Q, EDI	SAFE	0.35
Li-Way et al. (2017)	154	100%	Australia	EDE-Q version 4	VIA	0.18
Perez et al. (2002)	118	100%	U.S.A.+ Foreign born	EDI- all 8 subscales	SAFE	0.19
Simmons and Christine (2019)	446	73.8% & 63.7%	U.S.A	EES-C, BMI	SAFE-C	0.17
Stark-Wroblewski (2005)	106	100%	Asia	EAT-26	AIRS, SATAQ, SC	-0.09
Sussman and Lim (2007)	353	100%	U.S.A.	EAT-26	WAI	0.01
Swami (2016)	98	100%	United Kingdom International student	EDI-3, EDI-DT, EDI-BD and EDI-BS	Sociocultural adjustment + Cultural Distance + Perceived Discrimination	0.21
Thomas et al. (2016)	94	100%	Middle East	EAT-26	MIIS, IPM, Westernization Survey	0
Total						0.19

Figure 1. The overall effect size of acculturative stress and disordered eating symptoms.

R² for Model 1, Random effects (ML), Z-Distribution, Fisher's Z

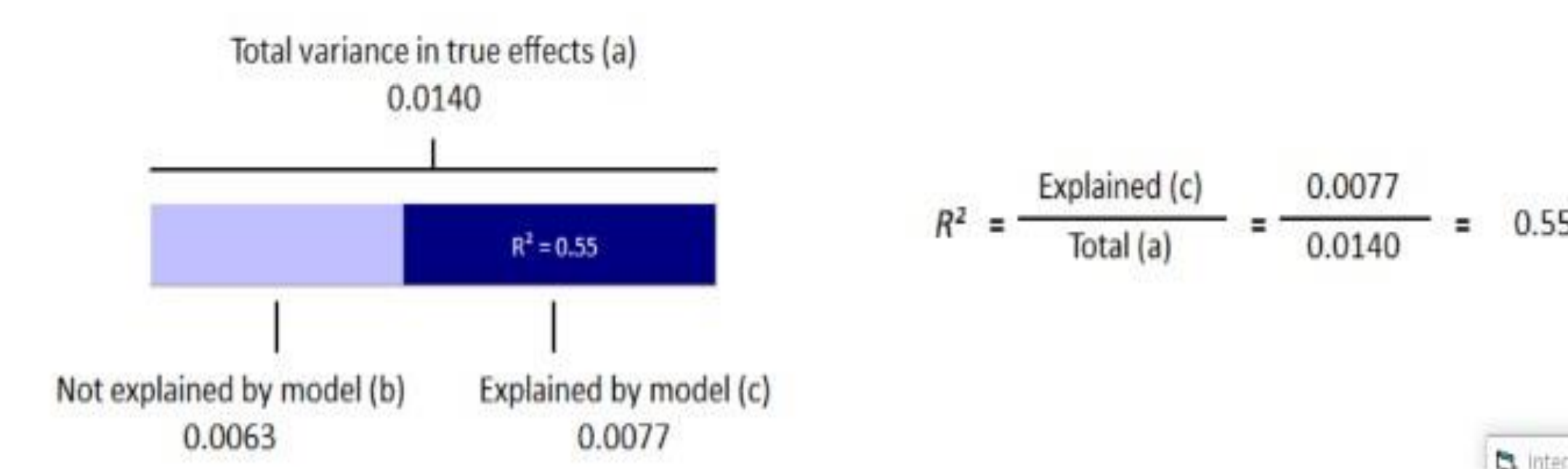


Figure 2. Moderation analysis of SAFE measure vs Non-SAFE measures. [Captured from the Comprehensive Meta Analysis Software]

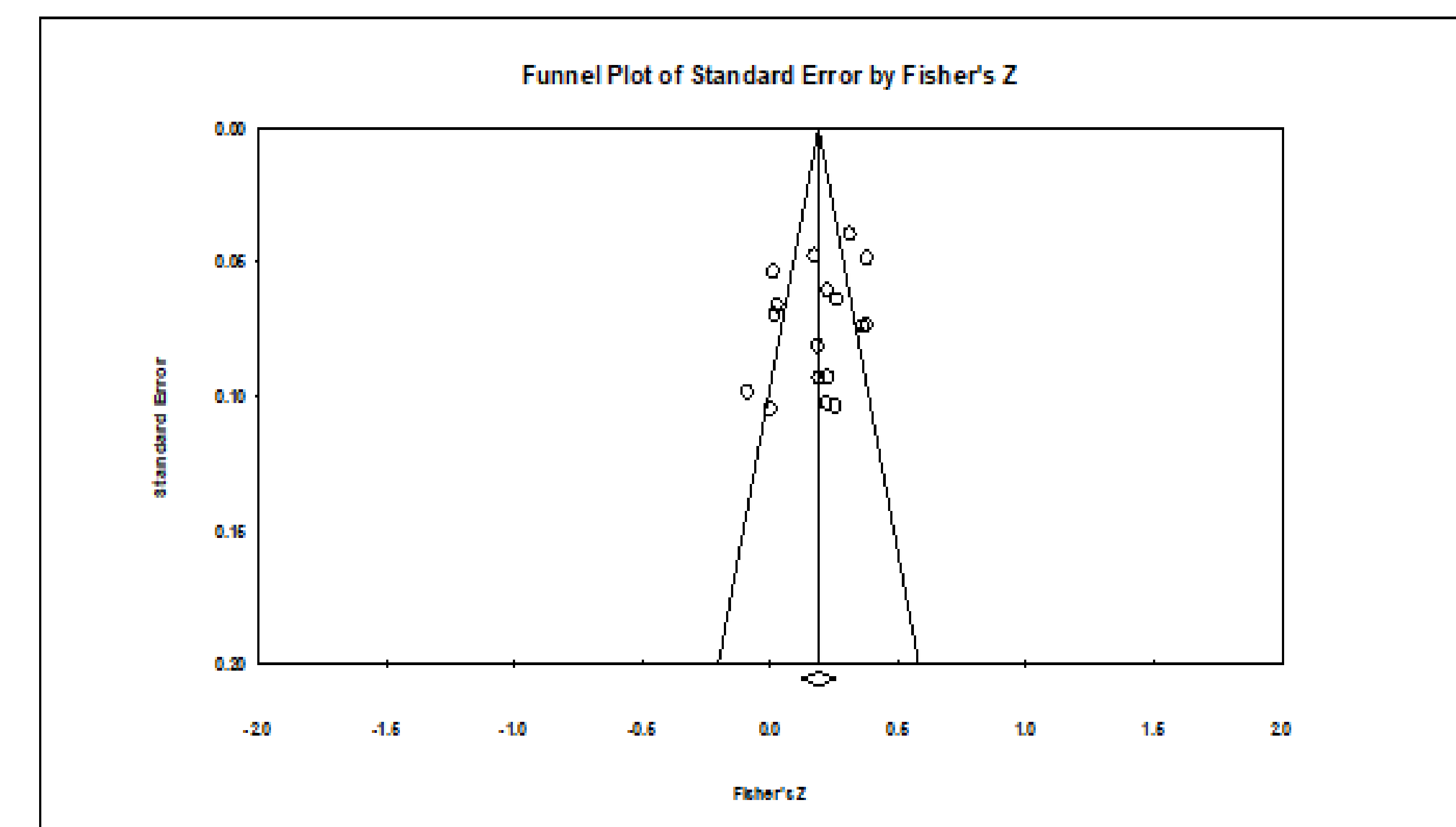


Figure 3. Funnel plot of standard error for all studies. [Captured from the Comprehensive Meta Analysis Software]

Methodology

Inclusion and Exclusion Criteria

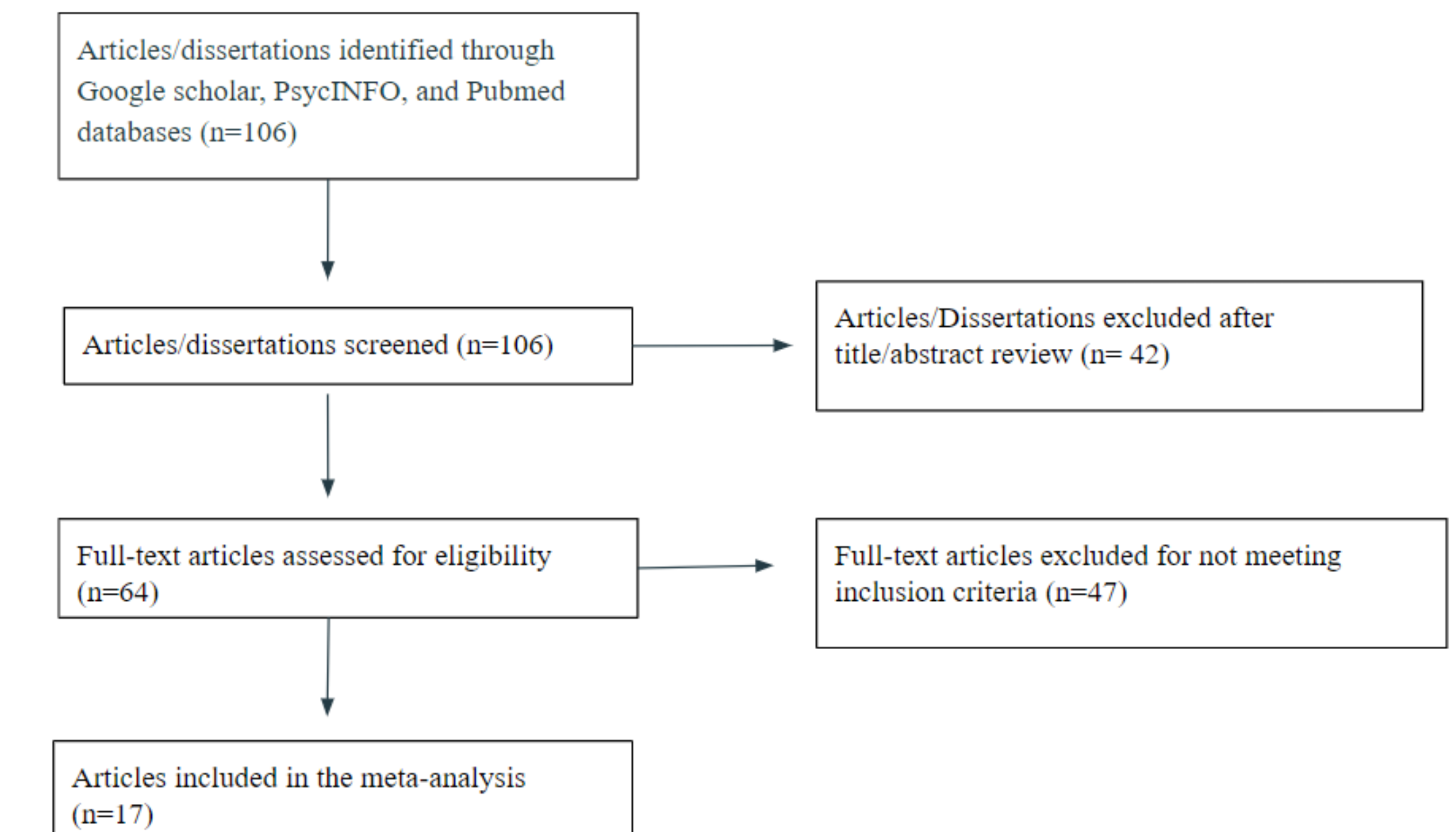
Inclusion Criteria:

- Need a quantitative measurement with fair internal consistency ($\alpha > .70$) for disordered eating behavior and acculturative stress
- Published after 2001
- Only peer reviewed sources

Exclusion Criteria:

- Study only had descriptive statistics
- Did not correlate disordered eating and acculturative stress
- Study used screeners as disordered eating measurement
- Study used only qualitative measurements
- Only measured body image as disordered eating
- Only measured ethnic identity as acculturative stress

Flow Chart



Limitations and Future Direction

Limitations:

1. Sample population consisted of predominantly females
2. Did not separate generational status of immigrants (First gen v.s. Second Gen) and international students
3. Study are only examining acculturative stress under the context of Non-Westerners acculturating to Western culture
4. Alternative explanation of causality: DE might be exacerbating AS as they were measured at the same time

Future Directions:

- More study on the mechanism behind the relationship between AS and DE should be conducted. How does it work and does it differ across different population (First gen immigrant, second gen immigrant, international students etc)?
- SAFE is recommended for measurement of acculturative stress in relation to disordered eating behaviors due to its heightened sensitivity and predictive validity.

Contact Information

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