

Adaptation and validation of a Romanian version of Perception of Teasing Scale (POTS) on a sample of early adolescents

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Abstract: The present study aimed to examine psychometric properties (reliability and validity) of a Romanian translated version of Perception of Teasing Scale (POTS, Thompson et al., 1995) among early adolescents. The study relied on a cross-sectional design with a convenience sample of 332 early adolescents (59.3% girls) aged between 11 and 13 years old ($M_{age} = 12.20$), from urban middle schools in north-eastern region of Romania. Participants completed weight-related teasing and competence-related teasing subscales of POTS, peer pressures subscale of Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ-4R, Schaefer et al., 2017) and reported their weight and height. Results of Confirmatory Factor Analysis (CFA) revealed good model fit for the two related-factors model. Thus, the Romanian version successfully replicated the factorial structure of the original POTS, supporting the scale construct validity. Both subscales demonstrated good internal consistency, supporting the scale reliability. Further, both weight-related teasing and competence-related teasing were positively related with perceived appearance pressures from peers and with children's BMI, with stronger associations for weight-related teasing, supporting the scale convergent validity. The findings provide preliminary evidence showing that the present Romanian version of POTS could be a reliable and valid self-report measure to assess weight-related teasing and competence-related teasing among early adolescents across weight spectrum.

Keywords: POTS, Teasing, Validation, Romanian, Adolescents, Factorial Structure, CFA

Introduction

Weight-related teasing is among the most common forms of victimization in middle childhood and adolescence, with up to 40% of teenagers across the weight spectrum experiencing some type of weight stigma or perceived weight bias (Hayden-Wade et al., 2005; Himmelstein et al., 2019; Juvonen et al., 2017). Weight bias encompasses negative weight-based social attitudes and stereotypes,

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such as devaluation, discrimination, rejection, denigration and teasing based on body size and weight (Bidstrup et al., 2022; Puhl & Lessard, 2020). Weight bias and stigma are socially widespread and highly prevalent across multiple settings, such as education, healthcare, employment, media, sport, interpersonal relations, and are present across all age categories from early childhood to adulthood (Lawrence et al., 2021; Nutter et al., 2019; Puhl & Brownell, 2003).

Weight stigma experiences, including weight-related teasing during childhood and adolescence, have multiple negative consequences for youth mental health and psychological functioning, such as lower self-esteem, negative body image, higher psychological distress, anxiety and depressive symptoms (Alimoradi et al., 2020; Emmer et al., 2020; Fields et al., 2021; Gleason et al., 2000; Warnick et al., 2022). Furthermore, weight stigma was also found to negatively impact physical health indices, as well as health-related quality of life and health behaviors like physical activity and unhealthy or disordered eating (Day et al., 2022; Guardabassi et al., 2018; Rubin et al., 2021; Schvey et al., 2021; Vartanian & Porter, 2016). For people with overweight or obesity, weight stigma maintains a vicious cycle of weight gain reflected in its' bidirectional relation with BMI (Gmeiner & Warschburger, 2023; Ma et al., 2021), also impeding weight-loss efforts and maintenance (Hübner et al., 2016; Schvey et al., 2019) by its paradoxical effects on eating behaviors (Nolan & Eshleman, 2016).

Weight stigma and teasing during childhood may also have long term adverse consequences in adolescence and further into adulthood, such as negative body image, eating disorders, dysmorphic concerns, low self-esteem, depression and anxiety, and weight problems (Haines et al., 2006; Liang et al., 2011; Longobardi et al., 2022; Puhl et al., 2017; Roth et al., 2002). Furthermore, during development, individuals may internalize weight-based stereotypes leading to self-directed stigma or internalized weight bias, that also explains long-lasting negative outcomes of early weight-teasing experiences (Bidstrup et al., 2022; Romano et al., 2021; Sikorski et al., 2015; Tylka et al., 2014).

Given the importance and recently increasing interest of the scholarly community in studying weight-stigma and its' negative health-related outcomes, few validated measures with sound psychometric properties are currently available to evaluate different facets of weight stigma, including weight-related teasing (Thompson et al., 1995; Vessey et al., 2014). One of the well-established and most widely-used self-report scale examining perceived weight teasing is Perception of Teasing Scale (POTS, Thompson et al., 1995). POTS assesses perceived teasing experiences (negative verbal commentaries, mockery and laughter) on two related factors, distinguishing between weight-related teasing (e.g., regarding size and weight) and competence-related teasing (i.e., regarding skills and abilities). POTS was developed by Thompson and colleagues (1995)

as an extension and revision of the former Perception of Appearance Related Teasing Scale (PARTS, Thompson et al., 1991) to address some of this scale's limitations (e.g., multiple sources of teasing, potential overlap with other teasing experiences). Thus, POTS allows to examine unique contribution of specific weight-related teasing, distinguishing it from more global forms of teasing such as competence-related teasing (Thompson et al., 1995).

Although developed for adults, POTS was widely used with children and adolescents, demonstrating very good psychometric properties in younger samples (Jensen & Steele, 2010; Gayes & Steele, 2015). Weight teasing subscale of POTS scales has been found to predict body dissatisfaction, weight status, and disordered eating in children and adolescents (Gleason et al., 2000; Gmeiner & Warschburger, 2023; Neumark-Sztainer et al., 2007). Several translated versions of POTS (e.g., Spanish, French) were adapted and validated for use in different cultures and populations, which replicated the factorial structure and demonstrated good psychometric properties among children and adolescents (López-Guimerà et al., 2012; Turgeon et al., 2013).

However, to our knowledge, there is currently no formal adaptation and validation of the POTS or other weight-teasing measure available in Romanian language. Thus, to fill this gap, the present study aims to examine psychometric properties (reliability and validity) of a Romanian translated version of Perception of Teasing Scale among early adolescents. We hypothesize that the Romanian adapted version will replicate factorial structure of POTS, with two related factors capturing perceived weight-related teasing and competence-related teasing experiences reported by children, supporting the scale construct validity. Given that children with higher weight are more frequently exposed to weight bias and weight-related teasing from their peers (see Puhl & Lessard, 2020 for review), we hypothesize that both weight teasing and competence teasing subscales of POTS will be positively related with peer appearance pressures and with children's BMI, supporting the scale convergent validity. Additionally, given the distinction of the specific weight-related teasing from the more global teasing experiences (Thompson et al., 1995), we expected that the weight teasing subscale will present stronger associations with children's BMI and with peer appearance pressures than the competence teasing subscale.

Method

Participants

The study was conducted using a cross-sectional design with a sample of 332 middle school children (59.3% girls), aged between 11 and 13 years old ($M_{age} = 12.20$, $SD = 0.41$), recruited from 6 urban schools in a large city from North-Eastern region of Romania. Children's self-reported Body Mass Index

(BMI) ranged between 14 and 35 kg/m² ($M = 19.52$, $SD = 3.46$), thus covering all the weight spectrum.

Procedure

After receiving approval from the Institutional Research Ethics Committee, invitation letters and informed consent forms were sent to 400 parents of 6th grade children, via their schools. 343 of the parents returned the signed informed consent form, granting permission to their children to participate in the study. After expressing their assent, children completed paper-and-pencil questionnaires in classroom during regular school hours, in groups (10-20 children), under the guidance of a research assistant. Given that some children were not present at school during the testing session, the final sample included 332 participants.

Measures

The measures were translated from English into Romanian using the forward-backward method (Hambleton, 2005), by two bilingual researchers familiar with the field. The back translation retained the conceptual meaning of the original measures. The translated measures were piloted on a small sample of 10 children in 6th grade to check for comprehension and age appropriateness, and small revisions were made based on their feedback.

Perception of Teasing Scale (POTS, Thompson et al., 1995) is a widely used self-report measure assessing teasing experiences perceived by individuals. The scales include 11 items answered on a 5-point Likert scale ranging from 1 (never) to 5 (very often) describing individuals' teasing experiences on two related-factors: six items assess the frequency of perceived weight-related teasing (e.g., “*People called you names like ‘fatso’.*”), and five items examine perceived competence-related teasing (e.g., “*People said you acted dumb*”). In the present adaptation for early adolescents, the term *People* was replaced with *Children*. Items are averaged on each subscale to form two separate weight-teasing and competence-teasing scores. POTS was widely used to examine teasing experiences in children and adolescents and demonstrated good psychometric properties in previous studies (e.g., Jensen & Steele, 2010; Zuba & Waschburger, 2017; Warnick et al., 2022).

Sociocultural Attitudes Toward Appearance (SATAQ-4R) – Peer Pressure Subscale. Appearance pressures from peers was evaluated with the Peer Pressures subscale of the Sociocultural Attitudes Toward Appearance Questionnaire 4-Revised (SATAQ-4R, Schaefer et al., 2017). SATAQ-4R is a multidimensional self-report scale assessing sociocultural influences related to appearance and body shape, including internalization of sociocultural standards and perceived appearance pressures from several sources (e.g., media, family,

and peers). In the current study, we used only the Peer Pressures subscale to examine convergent validity of POTS. Peer pressures subscale includes four items rated on a five-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree) assessing perceived peer pressures related to body shape and appearance (e.g., “I feel pressure from my peers to look in better shape”). The items were averaged to compute an overall peer pressure score ($\alpha = .87$). SATAQ-R was widely used to examine appearance-related sociocultural influences and demonstrated good psychometric properties in previous studies (Schaefer et al., 2017).

Body Mass Index. Children reported their height (in meters) and weight (in kilograms), and BMI (kg/m^2) was computed based on these self-reported measurements.

Data Analyses

Using IBM SPSS 26, we first conducted a missing values analysis to examine whether data were missing completely at random (MCAR, Little & Rubin, 2019). Preliminary analyses were computed to examine gender differences and zero-order correlations with children’s age for the two POTS subscales. To examine construct validity of POTS, we conducted Confirmatory Factor Analysis (CFA) to investigate factorial structure, using IBM AMOS Graphics 20. To test the overall model fit we used chi-square statistic (χ^2) and relative chi-square (χ^2/df), given the sensitivity of χ^2 test to the model complexity and sample size, as well as four commonly used fit indices (Collier, 2020): the Normed Fit Index (NFI), Tucker-Lewis index (TLI), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). Cut-off values of RMSEA $<.06$, and CFI, TLI and NFI values $\geq .95$ indicate a good model fit (Hu & Bentler, 1999). In testing the factorial model, we relied on full information maximum likelihood (FIML) estimations to account for missing data (Enders, 2020). To examine POTS subscales’ reliability, we used alpha Cronbach to estimate internal consistency. To verify convergent validity, we used zero-order correlations of POTS subscales with Peer Pressures subscale of SATAQ-4R and with children’s BMI. We further used Z-test to compare the correlation coefficients (Meng et al., 1992) of weight teasing and competence teasing with peer pressures, and with children BMI, respectively.

Results

Preliminary Analyses

Results of the MCAR test indicated that data were missing completely at random, $\chi^2(137) = 91.80$, $p = .99$. Independent t test indicated there were no significant sex differences for perceived weight teasing, $t_{(327)} = -1.18$, $p = .23$, and competence teasing, $t_{(323)} = -1.32$, $p = .18$. Correlation analysis indicated that children's age was not significantly related with any of the two subscales of POTS, $r = -.01$, $p = .83$ for weight teasing, $r = -.01$, $p = .73$ for competence teasing.

Confirmatory Factor Analysis

Results of the CFA analysis indicated a very good model fit for the two related-factors model, $\chi^2_{(40)} = 71.66$, $p = .002$, $\chi^2/df = 1.79$, $NFI = .97$, $TLI = .98$, $CFI = .99$, $RMSEA = .04$, 90% CI [.03; .06]. Factor loadings for all the items on either the weight teasing or the competence teasing subscales of the POTS were significant, with standardized loading coefficients ranging between .70 and .91, and squared multiple correlations (R^2) ranging between 0.49 and 0.84. (See Table 1 and Figure 1).

Table 1. CFA standardized factor loadings for POTS items on the two factors

Factor	Item	<i>M</i>	<i>SD</i>	Loading	<i>R</i> ²
Weight Teasing	1. People made fun of you because you were heavy <i>Copiii râdeau de tine din cauza greutății tale</i>	1.60	1.06	.76	.58
	2. People made jokes about you being too heavy <i>Copiii făceau glume pe seama ta din cauza greutății tale</i>	1.55	1.04	.84	.70
	3. People laughed at you for trying out for sports because you were heavy <i>Copiii râdeau de tine când încercai să faci sport din cauza greutății tale</i>	1.44	0.97	.90	.80
	4. People called you names like "fatso" <i>Copiii îți puneau porecle cum ar fi "grasule / graso"</i>	1.41	0.97	.90	.81
	5. People pointed at you because you were overweight <i>Copiii te arătau cu degetul din cauza</i>	1.35	0.91	.91	.84

	<i>greutății tale</i>					
	6. People snickered about your heaviness when you walked into a room alone	1.31	0.84	.91		.83
	<i>Copiii râdeau pe seama greutății tale când intrai singur într-o încăpere</i>					
Competence Teasing	7. People made fun of you by repeating something that you said because they thought it was dumb	1.79	1.16	.80		.64
	<i>Copiii te luau în râs repetând ceva ce ai spus pentru că au crezut că este o prostie</i>					
	8. People made fun of you because you were afraid to do something	1.75	1.09	.82		.68
	<i>Copiii râdeau de tine pentru că îți era frică să faci ceva</i>					
	9. People said you acted dumb	1.82	1.17	.74		.55
	<i>Copiii au spus că te-ai comportat prosteste</i>					
	10. People laughed at you because you didn't understand something	1.85	1.18	.84		.70
	<i>Copiii râdeau de tine pentru că nu înțelegeai ceva</i>					
	11. People teased you because you didn't get a joke	1.77	1.18	.70		.49
	<i>Copiii te-au tachinat pentru că nu ai înțeles o glumă</i>					

Note: All standardized factor loadings are significant at $p < .001$.

Reliability

POTS subscales demonstrated good reliability as indicated by internal consistency coefficient alpha Cronbach for both, weight teasing, $\alpha = .95$, and competence teasing, $\alpha = .88$.

Convergent Validity

Correlation analyses (see Table 2) showed significant positive associations of POTS subscales with SATAQ-4R Peer Pressures subscale, indicating a large effect size for weight teasing, $r = .56$, $p < .001$, and medium effect size for competence teasing, $r = .37$, $p < .001$, which are significantly different ($z = -4.79$, $p < .001$). Similarly, POTS subscales correlated positively and significantly with children's BMI, with a small effect size for both weight

teasing, $r = .28$, $p < .001$, and competence teasing, $r = .15$, $p = .014$, which are also significantly different ($z = -7.29$, $p < .001$).

Table 2. Descriptive statistics and zero-order correlations among the study variables (N = 332)

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Min-Max</i>	(1)	(2)	(3)
(1) Weight Teasing	1.45	.86	1-5			
(2) Competence Teasing	1.80	.96	1-5	.58***		
(3) Peer Pressures	1.72	.97	1-5	.56***	.37***	
(4) Body Mass Index	19.52	.46	14.01-35.56	.28***	.15*	.24***

Note. * $p < .05$, *** $p < .001$.

Discussion

The present study aimed to provide preliminary evidence for the reliability and validity of a Romanian translated version of the Perception of Teasing Scale (POTS, Thompson et al., 1995), among early adolescents. Thus, the study contributes to the literature with empirical evidence supporting the psychometric properties of a Romanian translation of a well-established and widely-used self-report measure for assessing weight-related teasing in middle school children and adolescents.

As indicated by the CFA results, the Romanian version successfully replicated the factorial structure of the original POTS (Thompson et al., 1995), with two related but distinct factors capturing perceived weight-related teasing and competence-related teasing experiences of children. All POTS items had high factor loadings into the corresponding weight teasing or competence teasing subscale, and adequate squared multiple correlations, consistent with the original POTS (Thompson et al., 1995; Vessey et al., 2014), and previous adaptations in other languages or adolescents' samples (Jensen & Steele, 2010; López-Guimerà et al., 2012; Turgeon et al., 2013). These findings provide clear evidence for the construct validity of the Romanian language version of POTS for middle school children and adolescents. Further, both weight-related teasing and competence-related teasing demonstrated good reliability as indicated by adequate internal consistency coefficients.

Further, both weight-related teasing and competence-related teasing were positively related with perceived appearance pressure from peers reported by children, confirming Romanian POTS convergent validity. Furthermore, as expected, weight-related teasing presented significantly stronger association with appearance pressures than competence-related teasing, providing further support for the scale validity. Similarly, both weight-related teasing and competence-related teasing were positively related with children's BMI,

suggesting that children with higher weight experience more frequent weight-related teasing. In addition, the correlation between POTS and BMI was significantly stronger for weight teasing than for competence teasing, supporting the scale validity. These results are consistent with prior studies exploring appearance pressures and weight teasing among children and adolescents, that also found positive associations with BMI, as well higher frequency of weight teasing experiences in children with higher weights (Gayes & Steele, 2015; Hayden-Wade et al., 2005).

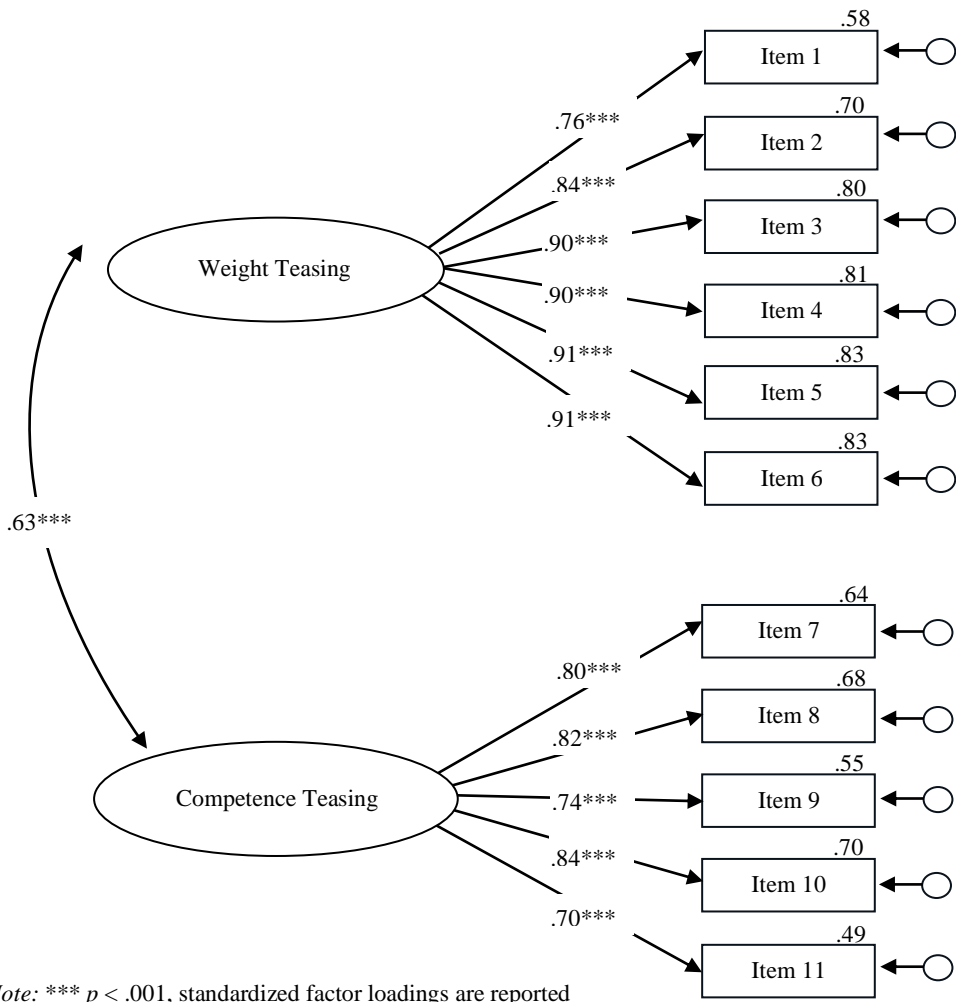


Figure 1. Two Related-Factors Model of Perception of Teasing Scale (POTS)

Several limitations of our study should also be acknowledged. The study relied on a relatively small, convenience sample of early adolescents from urban middle schools, with a narrow age span, which limits the generalizability of findings to the Romanian adolescent population. Thus, future studies should rely on larger and more diverse youth samples to improve evidence of the scale's validity. Further, we relied exclusively on self-report measures, which may affect the validity of the findings, given the inherent limitations of children self-reports, such as social desirability, inaccurate recall of earlier experiences, or limited information. In particular, relying on children's self-reports of height and weight might have been problematic and may have affected BMI estimates. Thus, future studies may rely on anthropometric measurements or adults' reports, and may conduct weight teasing comparisons between lower/normal/overweight statuses to further support the scale validity. Further, relying on a cross-sectional design, the study was unable to examine test-retest reliability and predictive validity. Thus, future longitudinal studies could provide additional support for the psychometric properties of Romanian version of POTS.

In conclusion, the findings of this study have important practical utility for the study of weight-related teasing among Romanian adolescents, providing preliminary evidence supporting the reliability and validity of a Romanian version of POTS, that should be substantiated and extended in future more complex studies. Results suggest that the present Romanian adaptation could be a reliable and valid self-report measure of weight-related teasing and competence-related teasing for use with early adolescents across the weight spectrum, that should be strengthened by future research supporting the scale psychometric properties.

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