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Psychometric Validation of the Well-treatment Scale in School-Aged Adolescents from Cúcuta, Colombia

Validación psicométrica de la Escala de Buen Trato en adolescentes escolares de Cúcuta, Colombia

Jesús Forgiony-Santos[1], Laura N Alfaro-Beracoechea[2], Nidia-Johanna Bonilla-Cruz[3], Marlen-Karina Fernández-Delgado[4], Yoryelis-Adriana Ortiz-Zambrano[5]

SUMMARY

Background: *The objective of this study was to analyze the internal structure and psychometric properties of the Well-treatment Scale in a sample of school-aged adolescents in Cúcuta, Colombia.*
Material and methods: *A quantitative, cross-sectional, and instrumental design was used, involving 1,019 students aged 11-19. The analyses included descriptive statistics, internal consistency, confirmatory factor analysis (CFA), correlations among factors, and differences by age and gender.*
Results: *CFA supported the six-factor theoretical model and led to the elimination of three reverse-coded items, thereby improving the model's parsimony and fit indices. The final version consisted of 34 items distributed across the following domains: Well-treatment Received, Consideration, Kindness, Expression of Affection, Physical Self-Care, and Psychological Self-Care. The descriptive statistics showed moderate to high levels of Well-treatment, with consideration and kindness standing out as the highest dimensions and physical self-care as the lowest. The correlations among the subscales were positive and significant, supporting the instrument's internal consistency. Likewise, differences by age and gender were observed, consistent with prior literature.*
Conclusions: *The findings confirm that the Well-treatment Scale is a valid and reliable instrument for assessing relational and self-care practices in adolescents and are useful for guiding school interventions aimed at strengthening socio-emotional well-being and coexistence.*

Keywords: *Interpersonal relations, adolescence, emotional adjustment, factor analysis, self-care.*

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ORCID: 0000-0002-2686-7679[1]
ORCID: 0000-0002-9857-7339[2]
ORCID: 0000-0003-3375-4303[3*]
ORCID: 0000-0002-4964-1779[4]
ORCID: 0009-0001-3914-3864[5]

[1] Universidad Simón Bolívar, Facultad de Ciencias Jurídicas y Sociales, Centro de Investigación en Estudios Fronterizos, Cúcuta, Colombia. E-mail: jesus.forgiony@unisimon.edu.co
[2] Universidad de Guadalajara, Centro Universitario de la Ciénega, Guadalajara, México. E-mail: nadhielii.alfaro@academicos.udg.mx

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[3] Universidad Simón Bolívar, Facultad de Ciencias Jurídicas y Sociales, Centro de Investigación en Estudios Fronterizos, Cúcuta, Colombia. Cúcuta, Colombia. E-mail: nidia.bonilla@unisimon.edu.co
[4] Unilasallista Corporación Universitaria, facultad de ciencias sociales y educación, programa de psicología Grupo de Investigación en Psicología Aplicada GIPA
[5] Universidad Simón Bolívar, Facultad de Ciencias Jurídicas y Sociales, Centro de Investigación en Estudios Fronterizos, Cúcuta, Colombia. E-mail: y_ortiz8@unisimon.edu.co

*Corresponding author: Nidia-Johanna Bonilla-Cruz, Simón Bolívar University, Faculty of Legal and Social Sciences, Cúcuta, Colombia. E-mail: nidia.bonilla@unisimon.edu.co

RESUMEN

Introducción: *El objetivo de este estudio fue analizar la estructura interna y las propiedades psicométricas de la Escala de Buen Trato en una muestra de adolescentes en edad escolar de la ciudad de Cúcuta, Colombia.*
Método y materiales: *Se utilizó un diseño cuantitativo, transversal e instrumental, con la participación de 1019 estudiantes de entre 11 y 19 años. Los análisis incluyeron estadística descriptiva, consistencia interna y análisis factorial confirmatorio (AFC), así como correlaciones entre factores y diferencias por edad y género.*
Resultados: *El AFC respaldó el modelo teórico de seis factores y condujo a la eliminación de tres ítems mediante codificación inversa, lo que mejoró la parsimonia y los índices de ajuste del modelo. La versión final constó de 34 ítems distribuidos en Buen Trato Recibido, Consideración, Amabilidad, Expresión de Afecto, Autocuidado Físico y Autocuidado Psicológico. La estadística descriptiva mostró niveles de buen trato de moderados a altos, destacando la consideración y la amabilidad como las dimensiones más altas y el autocuidado físico como la más baja. Las correlaciones entre las subescalas fueron positivas y significativas, lo que respalda la consistencia interna del instrumento. Asimismo, se encontraron diferencias por edad y género, con patrones consistentes con la literatura previa.*
Conclusiones: *Los hallazgos confirman que la Escala de Buen Trato es un instrumento válido y fiable para evaluar las prácticas relacionales y de autocuidado en adolescentes, y resulta útil para orientar las intervenciones escolares destinadas a fortalecer el bienestar socioemocional y la convivencia.*

Palabras clave: *Relaciones interpersonales, adolescencia, ajuste emocional, análisis factorial, autocuidado.*

INTRODUCTION

Mental health in adolescents is a global priority due to the increasing presence of emotional symptoms, difficulties in affective regulation, and exposure to adverse experiences during this stage of development. In school contexts, these manifestations can be intensified by relational dynamics, academic demands, and particular sociocultural conditions. Evidence shows that factors such as Well-treatment, school climate, the quality of family relationships, and stressful life events significantly influence psychological well-being and the onset of emotional distress in this population (1-4).

Recent studies have reported that positive treatment, both received and self-generated, is associated with higher levels of happiness, self-acceptance, and emotional adjustment. At the same time, exposure to adverse events increases anxiety, depressive symptoms, and stress intolerance (5-7). In the school setting, these variables are particularly relevant because of their impact on self-concept, motivation, and socioemotional adaptation, as well as on adolescents' ability to cope with stressful situations and maintain optimal psychological functioning.

Despite these advances, significant gaps remain in the literature, particularly regarding the simultaneous integration of psychosocial, school, and mental health factors within a single empirical model. Most research addresses these dimensions in isolation, limiting understanding of their interaction and combined effects. This gap is even more evident in border regions and areas of high social vulnerability, such as the city of Cúcuta in Colombia, where adolescents may face particular and little-studied risk conditions (8).

Given this gap, there is a need to generate empirical evidence on how Well-Being, stressful events, psychological well-being, and emotional, cognitive, and behavioral indicators are related among school-aged adolescents. This information is key to guiding preventive interventions, strengthening protective factors, and designing strategies to promote mental health in educational settings. Therefore, the objective of this study was to analyze the relationships between psychosocial and school factors and the mental health of school-aged adolescents, providing robust evidence to inform the design of data-driven educational policies and mental health interventions.

Mental Health and Psychological Well-being in Adolescence

Adolescence is a period of development characterized by profound emotional, cognitive, and social changes, which increase vulnerability to adverse relational and contextual experiences. Psychological well-being has been conceptualized

as a multidimensional construct that includes self-acceptance, positive relationships, autonomy, personal growth, and a sense of purpose (4). From this perspective, mental health is conceived as a continuum ranging from languishing to flourishing, in which optimal functioning entails positive emotions and adequate social functioning (6).

At this stage, the quality of interpersonal relationships, the capacity for emotional regulation, and the development of self-concept play fundamental roles, making Well-Being a key element in understanding adolescent socio-emotional adjustment.

Well-treatment as a psychosocial construct and its dimensions

Well-treatment has emerged as an approach aimed at fostering interactions grounded in respect, warmth, empathy, and recognition. This construct underscores the importance of nurturing relationships and cultivating protective bonds that promote dignity and emotional well-being in adolescents' daily lives (9).

The conceptualization of Well-treatment integrates both relational and personal expressions. Furthermore, it includes actions that young people receive from significant others, such as emotional support, accompaniment, and recognition. On the other hand, it encompasses the prosocial behaviors adolescents exhibit toward their environment, which are associated with consideration, kindness, and affective expression. Finally, Well-treatment includes physical and psychological self-care practices that contribute to personal well-being, emotional regulation, and self-esteem (9,10).

These dimensions have been operationalized in instruments designed specifically for their evaluation, including the Well-treatment Scale, which groups components of received Well-treatment, generated Well-treatment, and self-generated Well-treatment into a factorial structure. This model has demonstrated relevance in studies of Latin American populations and promotes a broader understanding of the phenomenon in the school context (10).

Well-treatment, psychological well-being, and resilience

Well-treatment is closely related to indicators of emotional well-being and psychological adjustment. The presence of positive and supportive relationships has been linked to greater self-concept strength, the development of positive emotions, and the formation of healthy ties, all of which are essential elements of adolescent functioning (1,4,7). Likewise, dynamics of reciprocity contribute to the creation of cooperative environments that favor coexistence, social identification, and emotional integration (2).

Resilience, understood as the ability to cope with and recover from stressful experiences, is enhanced by the existence of warm bonds and consistent practices of Well-treatment. Previous studies have shown that emotional support and prosocial practices facilitate adaptive coping in the face of adverse events and strengthen the personal resources necessary for emotional regulation in stressful situations (5). Therefore, Well-treatment acts as a protective factor that can mitigate the impact of stressful situations common at this stage of development.

Influence of the school and family environment on positive treatment

The school environment is a determining factor for Well-treatment, given that school is one of the main spaces where adolescents build relationships, perform social roles, and develop social-emotional skills. Evidence indicates that positive relationships with peers and teachers, as well as a perceived safe and supportive school climate, are associated with better levels of coexistence, emotional adjustment, and prosocial disposition (7,11). In these spaces, the practice of Well-treatment favors healthier interactions and promotes the construction of protective bonds.

The family environment also plays a fundamental role in shaping Well-treatment practices. The presence of warmth, positive communication, and emotional availability is associated with the development of personal resources related to self-care and emotion regulation (12,13). Conversely, homes with

conflictive dynamics or little support can hinder the establishment of nurturing relationships and limit the ability to maintain self-care practices.

These influences can be understood through approaches that highlight the interactions among multiple environmental systems, such as family, school, and community, in adolescent development, as proposed by the bioecological model (14). This approach reinforces the need to analyze Well-treatment as a phenomenon situated in various relational contexts.

Integrative approaches to adolescent mental health

Understanding Well-treatment requires conceptual models that integrate the personal, interpersonal, and contextual aspects of adolescent functioning. From a biopsychosocial perspective, mental health arises from the interaction between biological, psychological, and social factors, implying that relational experiences such as support, reciprocity, and self-care can directly influence emotional well-being (15).

Likewise, the satisfaction of basic psychological needs for autonomy, competence, and relatedness has been proposed as a central element for internal motivation, emotional adjustment, and social functioning (16). These needs are closely linked to the various expressions of Well-treatment, thereby situating this construct within a comprehensive perspective on adolescent development.

Together, these approaches provide a solid conceptual framework for analyzing positive treatment in the school population and understanding its relationship with indicators of psychological well-being and social-emotional functioning.

METHODOLOGY

A quantitative, cross-sectional, instrumental study was conducted to analyze the psychometric properties of the Well-treatment Scale in school-aged adolescents in the city of Cúcuta. This type of design is appropriate for evaluating the internal structure, consistency, and behavior of measurement instruments in educational contexts, in accordance with contemporary guidelines for the validation of psychological tests (16-18).

The sample consisted of 1,019 students from two educational institutions in Cúcuta, Colombia: Andrés Bello (37.2 %) and Sagrado Corazón (62.8 %). Of the 1 045 initial questionnaires, 26 were excluded due to incomplete data; therefore, the analysis was conducted using the 1 019 valid cases. Ages ranged from 11 to 19 years (M = 14.4; SD = 1.69); 45.6 % (n = 477) were female and 54.4 % (n = 568) were male. In terms of family structure, 45.8 % reported belonging to a nuclear family, 23.2 % to an extended family, 20.2 % to a single-parent family, and 10.6 % to a reconstituted family. Most participants were Colombian (94.1 %), followed by Venezuelan (5.6 %).

The sample was selected using non-probability convenience sampling, based on access to educational institutions and willingness to participate. The nature of the sampling should be considered when interpreting the results' generalizability.

Instruments

Well-treatment Scale: The Well-treatment Scale, originally developed in Mexico and adapted for use with adolescents, was used (10). The initial version used in this study consisted of 37 six-point Likert items (1 = "never," 6 = "always"), which assessed the frequency with which participants generate or receive Well-treatment actions.

The scale is structured according to three broad theoretical dimensions of the construct (9,10):

- **Well-treatment received (GTR):** this group of items is related to the perception of support, affection, recognition, and accompaniment from other people.
- **Generated Well-treatment (BTG):** this consists of three factors: a) Consideration (CON), which refers to the attention, concern, and support given to others; b) Kindness (AMA), associated with respectful and warm behavior in interactions; c) Expression of affection (EXA), linked to the explicit manifestation of affection and recognition towards other people.

- **Self-generated Well-treatment (SGT):** this is divided into: a) Physical self-care (PSC), related to body and health care practices; b) Psychological self-care (PSC), referring to personal appreciation, respect for one's own decisions, and care for emotional well-being.

Previous studies have reported adequate internal consistency indices and a factor structure consistent with this multidimensional model in the Mexican adult population (10), supporting its use and evaluation in the Colombian adolescent population.

Procedure

Contact was made with the administrators of the educational institutions to present the study's objectives and request the necessary authorization. Once institutional approval was obtained, informed consent was obtained from mothers, fathers, or guardians, and assent from participating students, in accordance with ethical guidelines for research with minors.

The Well-treatment Scale was administered collectively during school hours in classrooms previously assigned by the institutions. The students completed the paper-based instrument under the supervision of trained staff who provided standardized instructions and answered any questions. Once the data were collected, the questionnaires were checked for completeness; forms with missing data were excluded, and the database was entered and cleaned.

Data analysis

Statistical analyses were performed using Jamovi v. 2.3 for reliability index calculations, SPSS v. 26 for descriptive and correlational analyses, and AMOS v. 18 for confirmatory factor analysis (CFA). First, descriptive statistics (mean, standard deviation, minimum, and maximum) were calculated for the total scale and each subdimension. Normality was assessed using the Shapiro–Wilk test and inspection of skewness and kurtosis; all subscales showed significant deviations from normality (all $p < 0.001$ for Shapiro–Wilk; $|skewness| > 1.0$ and $|kurtosis| > 2.0$ in most cases), supporting the use of nonparametric procedures.

Subsequently, a confirmatory factor analysis was conducted to test the theoretical model comprising six first-order factors (BTR, CON, AMA, EXA, FIS, and PSC) and an overall factor, Well-treatment. Absolute and relative fit indices were estimated, including χ^2 and its ratio with degrees of freedom (χ^2/df), RMSEA, CFI, TLI, NFI, and IFI. Model fit was evaluated using the following benchmarks: $\chi^2/df < 3$ (Kline, 2015); RMSEA < 0.06 for close fit and < 0.08 for reasonable fit; CFI and TLI > 0.95 for excellent fit and > 0.90 for acceptable fit (18); and SRMR < 0.08. The internal consistency of the scale and each subfactor was evaluated using Cronbach's alpha and McDonald's omega.

Finally, Spearman's rank correlation analyses were performed between scale factors, and Mann–Whitney U tests were used to examine gender differences in total-scale and subdimension scores, given the non-normal distribution of the data.

Ethical considerations

This research received approval from the Research Ethics Committee of Simón Bolívar University (Act No. C2060271025, dated 03/10/2025). It was conducted in accordance with the ethical standards outlined in the Declaration of Helsinki (19) and the International Ethical Guidelines for Health-Related Research Involving Humans, published by the Council for International Organizations of Medical Sciences (20). Written informed consent was obtained from parents or legal guardians, and each adolescent participant provided their assent. All data were anonymized, assigned identification codes, and stored in an encrypted digital repository accessible only to members of the research team. The study involved no invasive procedures, and data collection was conducted in a manner that avoided inducing psychological distress.

RESULTS

Before the final model estimation, a preliminary confirmatory factor analysis was conducted with the original 37-item version of the scale. In this initial model, items 25, 26,

and 31, reverse-scored items assessing affection expression and physical self-care, showed non-significant or very low standardized factor loadings, contributing to suboptimal model fit (CFI = 0.894, TLI = 0.885, RMSEA = 0.062). Following established recommendations for scale refinement in adolescent samples (18), these items were removed to improve theoretical coherence and model parsimony. The refined 34-item model showed substantially improved fit indices (CFI = 0.941, TLI = 0.934, RMSEA = 0.050), supporting the decision to exclude them. No other items were eliminated, and internal consistency remained stable (ω = 0.886 for the total scale).

Table 1. Items

No. item	Reactive	CETC	ACEE
Factor 1	**Well-treatment received (12 items)**	α=0.947	ω =0.793
1	Some people look out for me when I go through difficult situations.	0.661	0.946
2	There are those who support me unconditionally.	0.753	0.943
3	There are those who care about my well-being.	0.719	0.944
4	There are people who hug me and express their affection for me.	0.76	0.943
5	I have people who support me emotionally when I need it.	0.814	0.941
6	There are people who treat me with warmth.	0.815	0.941
7	There are people who have done special things for me.	0.773	0.942
8	There are people who give me their time.	0.808	0.941
9	There are those who recognize my qualities.	0.76	0.943
10	There are people who express their affection for me.	0.772	0.942
11	I feel that others appreciate and value me.	0.724	0.944
12	I feel unconditionally accepted.	0.69	0.945
Factor 2	**Well-treatment generated: Consideration (8 items)**	α=0.905	ω=0.715
13	When I am with another person, I try to focus all my attention on him or her.	0.622	0.899
14	I ask others about the things that interest them.	0.637	0.898
15	Some people can count on my unconditional support.	0.7	0.892
16	I like to do special things for the people around me.	0.696	0.893
17	I look for ways to motivate others.	0.749	0.888
18	I am good at understanding other people's emotions.	0.684	0.894
19	I care about other people's well-being.	0.754	0.888
20	I can provide emotional support to others when needed.	0.742	0.889
Factor 3	**Well-treatment generated: Kindness (4 items)**	α=0.851	ω=0.650
21	I usually speak to others with courtesy and kindness.	0.712	0.802
22	I am a kind person	0.736	0.792
23	I treat others with warmth	0.71	0.803
24	I speak to others with respect	0.612	0.846
Factor 4	**Well-treatment generated: Expression of affection (3 items)**	α=0.733	ω=0.591
27	I look for ways to express my affection to the people I love	0.529	0.677
28	Others consider me to be a loving person	0.565	0.636
29	When I admire someone, I can express my appreciation for him or her	0.575	0.624
Factor 5	**Physically self-generated Well-treatment (3 items)**	α=0.762	ω=0.595
30	I take care of my diet	0.568	0.709
32	I am attentive to my well-being	0.641	0.627
33	I respect the hours I need to sleep	0.574	0.705
Factor 6	**Self-generated psychological Well-treatment (4 items)**	α=0.829	ω=0.744
34	I respect my leisure and recreation time	0.613	0.807
35	I devote time to the things I like	0.709	0.76
36	When I can, I indulge in some pleasure	0.676	0.775
37	I respect my decisions	0.633	0.794

Note. Items 25, 26, and 31 were excluded from the final model due to low factor loadings ($\lambda < 0.30$), CETC < 0.30, and a negative impact on model fit. See text for details.

Table 3

Correlations between factors and the Well-treatment Scale

	1	2	3	4	5	6	7
1. Total GT	--						
2. GT Received	0.896**	--					
3. GGT Consideration	0.759**	0.571**	--				
4. GGT Kindness	0.695**	0.493**	0.635**	--			
5. GGT Expression of Affection	0.735**	0.562**	0.579**	0.556**	--		
6. Self-generated Physical GT	0.623**	0.473**	0.289**	0.368**	0.437**	--	
7. Self-generated psychological GT	0.705**	0.535**	0.384**	0.433**	0.502**	0.660**	
8. Age	-0.077*	-0.061	-0.049	-0.008	-0.094*	-0.145**	-0.077*

Note: ** Correlations are significant at the 0.01 level; * Correlations are significant at the 0.05 level.

Table 3 shows that the correlations among the dimensions of the Well-treatment Scale are positive and significant, supporting the construct's internal consistency. The Total Well-Treatment Scale showed strong associations with all subscales, highlighting its relationships with Well-treatment Received ($r = 0.896$, $p < 0.01$) and Self-Generated Psychological Well-treatment ($r = 0.705$, $p < 0.01$). These correlations indicate that both perceptions of others' well treatment and psychological self-care practices contribute substantially to the overall functioning of the construct.

Within the dimensions of Generated Well-treatment, Consideration showed high correlations with Kindness ($r = 0.635$, $p < 0.01$) and Expression of Affection ($r = 0.579$, $p < 0.01$), suggesting that behaviors such as hugging, smiling, and saying "I love you" are important for the overall functioning of the construct 0.01) and Expression of Affection ($r = 0.579$, $p < 0.01$), suggesting that supportive and caring behaviors toward others tend to coexist with kind behaviors and expressions of affection in everyday interactions.

The dimensions of Self-Generated Well-treatment were also related to one another and to the other subscales, though with moderate magnitude. Psychological Self-Care showed particularly strong correlations with Expression of Affection ($r = 0.502$, $p < 0.01$) and Physical Self-Care ($r = 0.660$, $p < 0.01$), indicating that adolescents who report greater emotional self-care also tend to express affection toward others and engage in better physical self-care practices. In terms of age, small but significant negative correlations were observed with the Total Scale ($r = –0.077$, $p < 0.05$), Physical Self-Care ($r = –0.145$, $p < 0.01$), Psychological Self-Care ($r = –0.077$, $p < 0.05$), and Expression of Affection ($r = –0.094$, $p < 0.05$). These results suggest that manifestations of Well-treatment, especially those related to self-care and affective expression, tend to decrease slightly with increasing age. No significant associations were found between age and the Consideration or Kindness subscales.

Taken together, these correlations indicate that Well-treatment functions as an integrated construct, in which relational and self-care practices are consistently related to one another, and higher levels are observed among younger adolescents.

Gender differences

The Mann–Whitney U test identified significant differences between males and females on the total Well-treatment scale ($p = 0.008$) and on the Physical Self-Care, Psychological Self-Care, and Expression of Affection dimensions, with higher scores among males (Table 4). These findings suggest that men report higher levels of self-care practices and expressions of affection than women. On the other hand, women scored significantly higher on the Consideration

Confirmatory factor analysis allowed us to evaluate the adequacy of the theoretical model proposed for the Well-treatment Scale. In an initial estimation, the model yielded acceptable fit indices, although it indicated the need to adjust and optimize the internal consistency of the factors. During this process, three items written in reverse (items 25, 26, and 31) were identified as having insufficient factor loadings for their dimensions and were therefore eliminated in the refined version of the instrument.

After this refinement, the model showed a substantially improved fit and a more parsimonious structure, while maintaining the construct's conceptual consistency. The final version of the scale consisted of 34 items distributed across six distinct factors: Well-treatment Received (12 items), Consideration (8 items), Kindness (4 items), Expression of Affection (3 items), Physical Self-Care (3 items), and Psychological Self-Care (4 items). This organization preserves the multidimensional structure envisioned in the original formulation and supports the instrument's theoretical soundness (Table 1).

Table 2

Descriptive statistics of the Emotional Behavior Test (EBT) and its factors

	Mean	**SD**	**Minimum**	**Max**
Total Well-treatment Scale	3.86	0.716	1.00	5.0
Well-treatment Received	3.85	0.899	1.00	5.00
Well-treatment Generated: Consideration	4.04	0.827	1.00	5.25
Well-treatment Generated: Kindness	4.06	0.846	1.00	5.00
Well-treatment Generated: Expression of Affection	3.68	0.973	1.00	5.00
Self-generated Well-treatment: Physical	3.33	1.078	1.00	6.00
Self-generated Well-treatment: Psychological	3.81	0.937	1.00	5.00

As shown in Table 2, descriptive statistics indicate that the Total Well-treatment Scale had a mean of 3.86, indicating that, overall, participants report moderate-to-high levels of Well-treatment practices. This trend is maintained across the specific dimensions, although with varying intensities.

Well-treatment Received obtained a mean of 3.85, suggesting that adolescents perceive a consistent level of support, warmth, and recognition in their relationships. For their part, the dimensions of Generated Well-treatment showed the highest scores: Consideration (M = 4.04) and Kindness (M = 4.06), indicating a strong presence of prosocial behaviors toward others. Expression of Affection showed a slightly lower mean (M = 3.68), although also within a positive range.

In terms of Self-Generated Well-treatment, a difference was observed between its two components. Physical Self-Care had the lowest mean score on the entire scale (M = 3.33), suggesting that body-care practices are less frequent. In contrast, Psychological Self-Care had a mean of 3.81, indicating a more favorable trend in personal assessment, self-regulation, and emotional care.

Overall, these results indicate that participating adolescents tend to express and perceive high levels of Well-treatment, especially in their relationships with others. At the same time, self-care practices, particularly physical self-care, are the least well-developed area within the evaluated profile.

dimension ($p = 0.032$), while no differences were observed in Well-treatment Received. Overall, the observed variations are moderate in magnitude and reflect specific nuances in the expression of Well-treatment by gender, with a relatively consistent pattern across the two groups.

Tabla 4. Gender differences.

Dimension	Men (M, SD)	Women (M, SD)	Mann–Whitney U test
Total Well-treatment	3.91 (0.69)	3.80 (0.74)	$U = 128{,}452$, $z = -2.67$, $p = 0.008$, $r = -0.08$
Physical Self-Care	3.52 (1.04)	3.10 (1.07)	$U = 104{,}891$, $z = -7.84$, $p < 0.001$, $r = -0.25$
Psychological Self-Care	3.94 (0.89)	3.65 (0.96)	$U = 108{,}335$, $z = -6.74$, $p < 0.001$, $r = -0.21$
Expression of Affection	3.76 (0.95)	3.59 (0.99)	$U = 123{,}215$, $z = -2.15$, $p = 0.032$, $r = -0.07$
Consideration	3.98 (0.85)	4.12 (0.79)	$U = 124{,}510$, $z = -2.15$, $p = 0.032$, $r = -0.07$
Well-treatment Received	3.88 (0.87)	3.81 (0.92)	$U = 130{,}127$, $z = -1.73$, $p = 0.084$, $r = -0.05$

Note. Due to non-normal distribution of the data (Shapiro-Wilk $p < 0.001$ for all subscales), gender differences were analyzed using the Mann–Whitney U test. Means (M) and standard deviations (SD) are reported for interpretability and comparability with previous literature; however, the test is based on rank-order medians. Effect sizes (r) were calculated as $r = z/\sqrt{N}$, with $|0.10|$ = small, $|0.30|$ = medium, $|0.50|$ = large.

DISCUSSION

The confirmatory factor analysis supported the six-factor structure originally proposed for the Well-treatment Scale, reinforcing its theoretical foundation and construct validity in a sample of school-aged adolescents from Cúcuta, Colombia. The final model retained 34 items after removing three reverse-coded items, which exhibited low factor loadings and undermined the stability of their respective dimensions. This refinement improved the model's parsimony and overall fit, consistent with psychometric recommendations cautioning against including reverse-worded items in adolescent populations, given their susceptibility to response bias and inconsistent interpretation (17,18). The resulting structure preserved the construct's multidimensionality, clearly differentiating relational components (received and generated Well-treatment) from self-directed practices (physical and psychological self-care), thereby validating the scale for use in educational and psychosocial assessment contexts.

Descriptive results revealed moderate-to-high levels of Well-treatment across the sample, with Consideration and Kindness as the highest-scoring dimensions. This pattern aligned with prior evidence on the prevalence of prosocial behaviors during adolescence (21-23) and suggested that interpersonal sensitivity and respectful conduct were well-established among participants. In contrast, Physical Self-Care had the lowest mean, consistent with regional and international studies documenting adolescents' limited engagement in bodily care practices, such as regular sleep, balanced nutrition, and physical activity (24,25). The relatively lower score on Expression of Affection, although still within a positive range, indicated potential developmental or contextual constraints on the overt manifestation of affection, even when prosocial intentions were present. Taken together, these results indicated that relational competencies were more consolidated than self-regulatory practices, highlighting physical self-care as a critical vulnerability in the emotional and behavioral repertoire of this population.

The pattern of correlations among subscales further reinforced the instrument's internal consistency and conceptual coherence. Strong positive associations were observed between Consideration, Kindness, and Expression of Affection, supporting the view of prosociality as an integrated set of social-emotional skills

rather than a collection of isolated behaviors (26). Similarly, the moderate-to-strong correlation between Psychological Self-Care and Expression of Affection ($r = 0.502$, $p < 0.01$) provided empirical support for theoretical perspectives linking internal emotional regulation to greater openness to others' affect (27,28). Notably, Physical and Psychological Self-Care were highly correlated ($r = 0.660$, $p < 0.01$), underscoring their interdependence and suggesting that adolescents who engaged in emotional self-acceptance and boundary-setting were also more likely to attend to their bodily needs. These findings collectively indicated that Well-treatment functioned as a dynamic, interrelated system, where relational warmth and self-regard mutually reinforced one another.

Age-related analyses revealed small but statistically significant negative correlations between age and Physical Self-Care, Psychological Self-Care, and Expression of Affection. These trends were consistent with longitudinal evidence documenting a gradual decline in affective expressiveness and self-care behaviors as adolescence progresses (28), possibly reflecting increasing emotional inhibition, identity exploration, or exposure to normative pressures, particularly in late adolescence. No significant associations were found between age and Consideration or Kindness, suggesting that core prosocial dispositions remained relatively stable across this developmental window, even as emotional and bodily self-regulation became more challenging.

The most nuanced findings emerged in the analysis of gender differences. Contrary to stereotypical expectations that girls are assumed to be more affective or self-attentive, male adolescents reported significantly higher levels of Physical Self-Care, Psychological Self-Care, and Expression of Affection. In contrast, female adolescents scored higher only on the Consideration subscale. These results challenged essentialist notions of gendered emotional expression and suggested a reconfiguration of adolescent masculinities in this setting. The elevated scores among boys may reflect evolving sociocultural norms that increasingly encourage emotional literacy and self-care as components of healthy masculinity, particularly in educational environments where mental health promotion has gained institutional traction (29).

Given that the study was conducted in Cúcuta, a border city shaped by armed conflict, forced displacement, and shifting family structures, it is plausible that many male adolescents assumed caregiving or self-sustaining roles in contexts of familial absence or instability, thereby developing stronger repertoires of self-regulation and affective expression (29,30). Meanwhile, the higher scores in Consideration among girls aligned with persistent patterns of gender socialization that emphasize empathy, attunement, and responsibility for relational maintenance (31,32). Importantly, the absence of gender differences in Well-treatment Received suggested equitable perceptions of support from others, regardless of gender, a promising indicator of inclusive relational environments in the participating schools.

Finally, the study's psychometric robustness and substantive findings support the use of the Well-treatment Scale as a valid and reliable tool for assessing relational and self-care dynamics in school settings. Its six-factor structure provided a nuanced diagnostic framework for identifying strengths (e.g., prosocial orientation) and vulnerabilities (e.g., physical self-care), thereby informing targeted interventions to promote socioemotional well-being and school coexistence (32-34). Future applications could integrate this instrument into school-based screening protocols, teacher training programs, or preventive curricula, particularly in contexts of high social vulnerability where protective relational practices are vital for adolescent resilience. Favor agregar aquí citas anidadas 33 y 34.

CONCLUSIONS

The results of this study confirm that the Well-treatment Scale has a solid and coherent factor structure, composed of six dimensions that adequately differentiate relational and self-care components in school-aged adolescents. Eliminating three items written in reverse format improved model parsimony and fit indices, indicating more stable and adequate functioning of the final 34-item version.

Descriptive analyses indicated moderate to high levels of Well-treatment, particularly on the dimensions of consideration and kindness, whereas physical self-care was the least well-supported component. These findings suggest that relational practices of support and interpersonal sensitivity are more firmly established than those oriented towards personal care, which is relevant to educational interventions.

Correlations among dimensions were positive and significant, supporting the instrument's internal consistency and the conceptual integration between Well-treatment of others and Well-treatment of oneself. Likewise, differences by age and gender revealed important nuances in the expression of the construct, with trends toward higher levels of self-care and affective expression in younger adolescents, and specific differences between males and females in certain dimensions.

Overall, the findings support the validity and reliability of the Well-treatment Scale as an instrument for assessing Well-treatment practices in adolescents. Its application in educational contexts can contribute to identifying intervention needs, guiding social-emotional promotion programs, and strengthening school coexistence strategies. Future research should expand the validity analysis by incorporating convergent and divergent measures and by exploring factor invariance across population subgroups to consolidate the scale's psychometric robustness further.

REFERENCES

1. Harter S. The Construction of the Self. New York: Guilford Press; 1999.
2. Fehr E, Gächter S. Fairness and retaliation: the economics of reciprocity. J Econ Perspect. 2000;14(3):159-181.
3. Weissman MM, Verdeli H, Gameroff MJ, Wickramaratne P. National survey of psychotherapy training in psychiatry, psychology, and social work. Arch Gen Psychiatry. 2006;63(8):925-934.
4. Ryff CD. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J Pers Soc Psychol. 1989;57(6):1069-1081.
5. Masten AS. Resilience theory and research on children and families: Past, present, and promise. J Fam Theory Rev. 2018;10(1):12-31.
6. Keyes CLM. Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. Am Psychol. 2007;62(2):95-108.
7. Herrera-López M, Romera EM, Ortega-Ruiz R. ¡Todo bien! El reto de mejorar las relaciones interpersonales en adolescentes colombianos escolarizados. Bol Redipe. 2022;11(1):472-488.
8. Jamali A, Rafiepoor A. The Mediating Role of Emotion Regulation in the Relationship Between Parent-Child Relationship Quality and Risky Behaviors in Adolescents. JAYPS. 2024;5(1):35-44.
9. Sanz F. El buentrato: como proyecto de vida. Barcelona: Kairós; 2016.
10. Ruvalcaba-Romero NA, Alfaro-Beracoechea LN, Orozco-Solís G, Rayón-Carlos R. Construcción y validación de la Escala de Buen Trato en adultos mexicanos. Rev Educ Desarro. 2018;46:7-14.
11. Jambrina-Hernández R, Santana-Vega LE. El uso del smartphone en adolescentes: el papel del profesorado. Orientación Soc. 2022;22(1):e045.
12. Bronfenbrenner U, Morris PA. The bioecological model of human development. In: Damon W, Lerner RM, editors. Handbook of child psychology. 6th edition. New York: Wiley; 2006.p.793-828.
13. Restrepo DA, Jaramillo JC. Concepciones de salud mental en el campo de la salud pública. Rev Fac Nac Salud Pública. 2012;30(2):202-211.
14. Engel G. The need for a new medical model: A challenge for biomedicine. Science. 1977;196(4286):129-136.
15. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Am Psychol. 2000;55(1):68-78.
16. American Educational Research Association; American Psychological Association; National Council on Measurement in Education. Standards for educational and psychological testing. Washington, DC: AERA; 2014.
17. Kline RB. Principles and practice of structural equation modeling. 4th edition. New York: Guilford Press; 2015.
18. Byrne BM. Structural equation modeling with AMOS: basic concepts, applications, and programming. 3rd edition. New York: Routledge; 2016.
19. World Medical Association. World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. JAMA. 2013;310(20):2191-2194.
20. Council for International Organizations of Medical Sciences. International ethical guidelines for health-related research involving humans. 4th edition. Geneva: CIOMS; 2016. Available from: https://cioms.ch/wp-content/uploads/2017/01/WEB-CIOMS-EthicalGuidelines.pdf

21. Mayer JD, Salovey P. What is emotional intelligence? In: Salovey P, Sluyter D, editors. Emotional development and emotional intelligence: educational implications. New York: Basic Books; 1997.p.3-31.
22. Brackett MA, Rivers SE, Salovey P. Emotional intelligence: Implications for personal, social, academic, and workplace success. Soc Personal Psychol Compass. 2011;5(1):88-103.
23. Eisenberg N, Fabes RA. Prosocial development. In: Damon W, Eisenberg N, editors. Handbook of child psychology: social, emotional, and personality development. 5th edition. New York: Wiley; 1998.p.701-778.
24. Neff KD. The development and validation of a scale to measure self-compassion. Self Identity. 2003;2(3):223-250.
25. Bluth K, Blanton PW. Mindfulness and self-compassion: Exploring pathways to adolescent emotional well-being. J Child Fam Stud. 2014;23(7):1298-1309.
26. Wang MT, Degol JL. School climate: A review of the construct, measurement, and impact on student outcomes. Educ Psychol Rev. 2016;28(2):315-352.
27. Camacho N. La convivencia como potenciadora del clima en el aula de clases: una visión fenomenológica. Honoris Causa. 2021;13(2):3-16.
28. Benítez JL, Justicia F. El maltrato entre iguales: descripción y análisis del fenómeno. Electron J Res Educ Psychol. 2006;4(2):151-170.
29. Rivera Morales M, Guajardo Espinoza J. Diferencias de género en las habilidades socioemocionales de estudiantes de secundaria: un estudio comparativo. Rev Conoc Glob. 2024;9(2):224-232.
30. Puerta Rodríguez L. El papel del género en la manifestación de la salud mental en adolescentes: una revisión sistemática [tesis de licenciatura]. Oviedo: Universidad de Oviedo; 2024;5.
31. Van der Graaff J, Carlo G, Crocetti E, Koot HM, Branje S. Prosocial behavior in adolescence: gender differences in development and links with empathy. J Youth Adolesc. 2018;47(5):1086-1099.
32. Álvarez Cabrera P, Carrasco Gutiérrez M, Fustos Mutis J. Relación de la empatía y género en la conducta prosocial y agresiva, en adolescentes de distintos tipos de establecimientos educacionales. Rev Iberoam Psicol. 2010;3(2):27-36.
33. Elles-Cuadro E, Marimon-Mendoza OV, Álvarez-Toro LJ, Contreras-Jáuregui FA. Batería de pruebas para evaluar la condición física en estudiantes universitarios con discapacidad visual. Cultura Educ Soc. 2024;15(1):e03394693. doi:10.17981/culteduso c.15.1.2024.4693
34. Suárez-Rojas MS, Hernandez-Ballestas MA, Orozco-Gutiérrez M. Metacomprensión y desarrollo cognitivo en la autorregulación del aprendizaje del adolescente. Cultura Educ Soc. 2024;15(1):e0424675.