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EXAMINING THE FACTORIAL STRUCTURE OF THE SOCIAL COMPARISON SCALE IN THE LOCAL ENVIRONMENT: A PSYCHOMETRIC STUDY

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ABSTRACT: Because the fact that social comparison has a significant impact on both self-evaluation and interpersonal dynamics, it is essential to have instruments that have been culturally validated in order to ensure accurate evaluation.
Background: Given that social comparison profoundly influences self-assessment and interpersonal relationships, it is crucial to possess culturally validated instruments to guarantee precise evaluation.
Objective Goal This research aimed to validate the Arabic version of the Iowa-Netherlands Comparison Orientation Measure (INCOM) and to examine the instrument's factorial structure and reliability.
Methods: The methodology involved a cross-sectional study comprising 416 Saudi participants aged 20 to 34. The participants were enlisted via online platforms. Exploratory and confirmatory factor analyses, referred to as EFA and CFA, were conducted to examine the scale's structure. Cronbach's alpha and McDonald's omega were employed to evaluate internal consistency.
Results Upon concluding the analyses, a comprehensive two-factor model incorporating both performance and opinion dimensions was identified as accounting for 51.5% of the total variance. The CFA exhibited an acceptable degree of model fit (CFI=0.95, RMSEA=0.058). Cronbach's alpha values ranged from 0.78 to 0.85, while omega coefficients exceeded 0.82. This signifies that the internal consistency was notably high. Significant inter-factor correlations and associations with related constructs supported both convergent and discriminant validity. **conclusion**, the Arabic INCOM demonstrated strong psychometric properties, confirming its reliability and validity as a tool for assessing social comparison tendencies in Arab populations. The predictive validity of this hypothesis must be assessed in future research encompassing diverse age and cultural demographics.

Keywords: Social Comparison, Psychometric Properties, INCOM Scale, Factor Analysis, Reliability, Validity, Arab Population, Self-Evaluation

INTRODUCTION

Festinger theory of social comparison processes includes the following parts: Everyone has the urge to compare their own abilities and opinions to those of others, especially when there aren't no objective or non-social ways to do so. Even though everyone does social comparisons, the amount that each person does them may be different from person to person[1, 2] ,and [3] [3] came up with the Iowa-Netherlands Comparison Orientation Measure (INCOM), which is a test of how much people compare themselves to others based on Festinger's theory [4]This was done to find out how alike and different people are. The INCOM was made for both the American and Dutch populations at the same time as it was being developed. There are eleven items in it, and they are split into two groups: abilities and opinions. In a number of different studies and languages, the factorial structure of the Social Comparison Scale has been investigated on multiple occasions[5]discovered a two-dimensional structure (ability and concept) in the Chinese version, whereas Terol, Lledó [6] replicated the original structure in a Spanish adaptation for patients suffering from chronic illness. There is a three-factor structure in the expanded Iowa-Netherlands Comparison Orientation Measure (INCOM), which includes non-directional, directional-upward, and directional-downward social comparison orientations. [7] identified this structure. The Spanish version of the INCOM-E was developed by Buunk, Belmont

[8] and it exhibited a high degree of reliability and a factor structure that was comparable to that of the English and Dutch versions. The scale was found to have positive correlations with interpersonal orientation, self-consciousness, and neuroticism across a variety of studies [5, 8] [5, 8]. Observations of differences in social comparison scores were made with regard to gender and occupation [7] A number of psychological constructs were associated with the scale, and it was able to accurately predict the frequency of social comparisons in work settings [5, 7]These associations provided support for the validity of the scale.

worked on changing the Social Comparison Orientation Scale so it could be used in China [5]How to do research: There were two groups of people who filled out the questionnaire, for a total of 1,023 people. The psychometric test showed that all eleven items were good. Confirmatory factor analysis showed that two dimensions, ability and concept, made up 55.6% of the total variance in the Chinese version of the Social Comparison Scale. The internal consistency reliability and the test-retest reliability coefficient for the four-week ESL were both 0.89. It was found that there was a big difference in scores between the male and female samples ($39.4 \pm 8.7/41.4 \pm 7.3$, $t = -4.06$) and between the employee and student samples ($39.5 \pm 8.6/41.3 \pm 7.5$, $t = -3.98$, $P < 0.01$). There was also a study of convergent and discriminant validity.

People are always hearing about other people's lives and experiences, which makes them compare themselves to others. But they often hide their bad feelings and experiences in public, which can change how they act and feel. People have been asking why people make social comparisons for a long time, and one answer is that it comes from the deep desire that people have to know themselves [9]Festinger's Social Comparison Theory, which was first published in 1954, says that people compare themselves to others because they have a natural urge to do so. According to the theory, people are naturally wired to judge themselves. Because of this, social comparison is a common part of life for people. It means the ways that people constantly compare themselves to others for almost all traits. [10, 11]There are two main ways to look at social comparison theory: upward and downward. [10, 11]The theory of upward social comparison says that people are more likely to compare themselves to people who they think are better off than they are, like those who are more successful, better, or in a higher position [12]Downward social comparison is a social comparison theory that says people compare themselves to other people who are less fortunate, less fortunate than them, or less fortunate than them [13] People who survive natural disasters like earthquakes go through mental changes, and they compare their situation to that of people who are in a worse situation [13] Because of this, the study uses a downward social comparison perspective to try to figure out how social comparison, resilience, and mental health outcomes are related in people who have survived earthquakes

The factorial structure of the Social Comparison Scale (SCS) has become a focal point in psychological assessment, as it underpins the validity and reliability of measuring individuals' tendencies to compare themselves with others. The SCS, particularly the Iowa-Netherlands Comparison Orientation Measure (INCOM) developed [3] is widely used to assess social comparison orientation across diverse populations and contexts. Empirical studies have consistently demonstrated that the INCOM scale exhibits a robust factorial structure, typically comprising two primary dimensions: ability comparisons (e.g., “How am I doing?”) and opinion comparisons (e.g., “What should I think or feel?”). Exploratory and confirmatory factor analyses conducted in large-scale samples from the United States, the Netherlands, Germany, and Brazil have supported this two-factor model, with statistical indices such as Cronbach’s alpha often exceeding 0.80, indicating high internal consistency. For example, one study reported Cronbach’s $\alpha = .91$ for the overall scale and subscale reliabilities ranging from .71 to .85.[14, 15] In some analyses, a third minor factor—often related to refusal or avoidance of social comparison—has emerged, but this component typically shows a low eigenvalue (e.g., 1.04) and weak theoretical support, leading most researchers to favor the two-factor solution. The factorial structure has also been shown to be stable across demographic variables such as sex, age, and education, with measurement invariance confirmed in multiple cross-cultural validations.[16]. Psychometric properties of the Social Comparison Scale in Spanish chronic illness were examined in this study[6] The article reported two studies. First, 202 chronic illness patients were examined for the test's dimensional structure. In the second study, 186 chronic illness patients were examined for instrument structure. Results replicated scale structure and were valid for optimal reliability.

This study [13] Assessed the Social Comparison Motives Scale (SCMS) in adolescents, showing high internal consistency ($\alpha = .91$) and strong convergent validity with INCOM ($r = .50$).The psychometric properties of social comparison scales have been examined extensively across diverse populations and contexts. [3] developed the Iowa–Netherlands Comparison Orientation Measure (INCOM), an 11-item scale measuring ability and opinion comparisons, showing strong internal consistency ($\alpha \approx .80$–$.83$) and cross-cultural validity. Hoffmann et al. (2010) validated INCOM in the German Socio-Economic Panel ($N \approx 1{,}058$), where confirmatory factor analysis (CFA) supported its two-factor structure, and a shortened 6-item version achieved excellent fit indices (CFI = .998, RMSEA = .015). Similarly, [17] refined a 22-item Social Comparison Questionnaire into a 13-item scale with $\alpha = .82$ and confirmed

its two-factor model through CFA. [18] introduced the Social Comparison Rumination Scale (SCRS), a 6-item unidimensional tool with high reliability, linking it to perfectionism, rumination, and burnout. In an online Portuguese sample (N = 1,065), [19] tested a 9-item Portuguese version, demonstrating one-dimensionality and significant correlations with anxiety and depression. [20]developed the SCS-WI for infertile women in Pakistan, revealing three factors (social distress, emotional burden, personal incapacity) that explained 63.4% of variance with α = .95. [21]created the Social Comparison Motives Scale (SCMS) for adolescents (N = 431), which produced five subscales and α = .91, with moderate convergence to INCOM (r ≈ .50). Additionally, [22]validated the Adolescent Social Comparison Scale–Revised (ASCS-R) in Portuguese youth (N = 450), reporting α = .81 and metric invariance across genders. Recently, [23]developed the Dermatology Social Comparison Scale (DSC), tailored for dermatology patients, and confirmed its structural validity and reliability. Collectively, these studies underscore the robustness and adaptability of social comparison measures across cultural and clinical settings, reinforcing their utility for psychological assessment and research.

Recent research has further refined the scale, proposing shortened versions that maintain strong psychometric properties while enhancing efficiency for large-scale surveys. These studies employ advanced statistical techniques, including principal component analysis, maximum likelihood exploratory factor analysis, and confirmatory factor analysis, to ensure the scale's construct validity and applicability; In summary, the examination of the factorial structure of the Social Comparison Scale is grounded in rigorous statistical analysis and cross-cultural research, providing a reliable foundation for its use in psychological and social research worldwide; Despite the extensive validation of social comparison measures across various cultural and clinical contexts, significant gaps remain in fully understanding their factorial structure within diverse populations. Many studies have focused on specific groups or contexts, often neglecting potential cultural nuances and the dynamic nature of social comparisons in rapidly changing social environments. Moreover, inconsistencies in reported factor structures, particularly between full and shortened versions of these scales, raise critical questions about their conceptual clarity and measurement invariance. These limitations highlight the need for further psychometric examination to ensure that such instruments accurately capture the multifaceted experience of social comparison across different sociocultural settings. Therefore, this study aims to address this gap by rigorously examining the factor structure of the Social Comparison Scale, providing a more robust and contextually sensitive understanding of its dimensionality and applicability.

METHODOLOGY

Research design

This study used a descriptive-analytical research design to look into the psychometric properties of the tool. A quantitative approach was chosen because it can look at how different variables are related and systematically account for differences in responses. The process of analysis had two parts: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). First, EFA was used to find hidden constructs in the dataset without forcing a set structure. This made sure that the factor solution came from the data itself. Then, CFA was used to check the factor structure that came from the EFA. This was done by looking at model fit using indices like CFI, TLI, RMSEA, and SRMR. We used Google Forms to make digital questionnaires that we used to collect data. This method made it easier to spread the word through social media, which reached a wider range of people and increased the number of responses. Using online tools is a common practice in survey research today, especially when data needs to be collected quickly and on a large scale.

Participants

We chose the people who would be in the study using a method called convenience sampling. We chose this method because it fit with the study's goals and because it was easy to get to and didn't take too long. We made an electronic version of the data collection tool with Google Forms. After that, we posted the survey link on social media sites like WhatsApp, Twitter, and Instagram, as well as in online groups that were relevant to the people we were trying to reach. The researcher put a statement of informed consent on the first page of the form to make sure that everyone who filled it out did so of their own free will. They also fully explained what the study was trying to find out. After reading the form's instructions, people were chosen based on the rules that had already been set. To be eligible, you had to be between the ages of 20 and 34, live in one of the areas listed, and agree to take part on your own. The study included 416 people. The age groups were as follows: 19.5% of the people who took part were between the ages of 20 and 24 (n=210), 30.0% were between the ages of 25 and 29 (n=125), and 19.5% were between the ages of 30 and 34 (n=81). In terms of education, 18.8% of the participants (n=78) had finished high school, 61.8% (n=257) had a Bachelor's degree, and 19.5% (n=81) had finished graduate school. 48.8% of the sample lived in the western region (n=203), 30.0% lived in the northern region (n=125), 19.0% lived in the southern region (n=79), and 2.2%

lived in the eastern region (n=9). 44.7% of the people who answered (n=186) said they made between 5 and 10 thousand Saudi Riyals a month, 12.5% (n=52) said they made between 6 and 10 thousand Saudi Riyals a month, and 42.8% (n=178) said they made between 11 and 20 thousand Saudi Riyals a month.

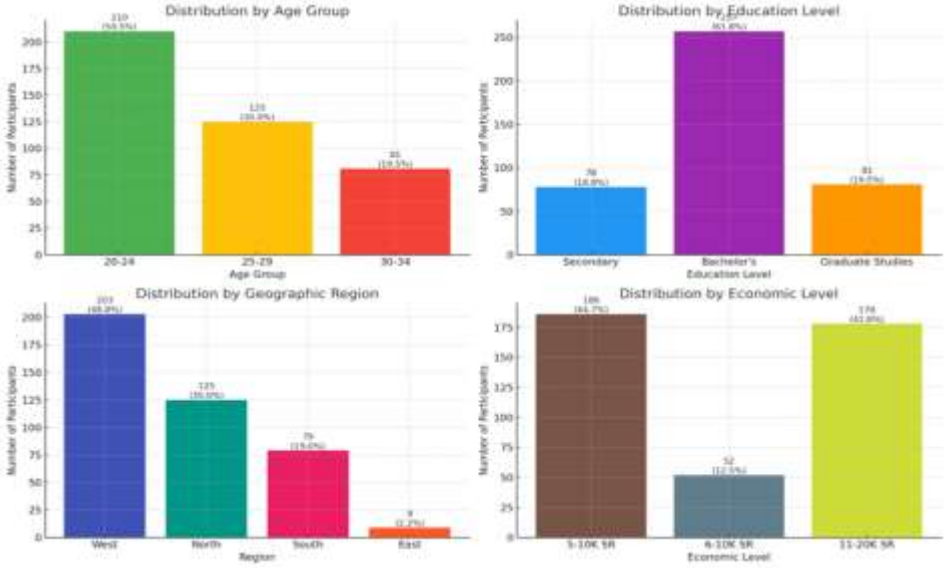


Figure (1): Demographic Distribution of the Study Sample

This figure illustrates the relative distribution of the study sample (N=416) across different demographic variables. For age groups, the largest proportion was within the 20–24 age range (50.5%), followed by 25–29 (30.0%) and 30–34 (19.5%).Regarding education level, the majority held a Bachelor's degree (61.8%), while 19.5% had graduate studies, and 18.8% had secondary education. Geographically, most participants were from the western region (48.8%), followed by the north (30.0%), the south (19.0%), and the east (2.2%). Finally, for economic level, 44.7% of participants reported a monthly income between 5,000–10,000 SR, 42.8% reported 11,000–20,000 SR, and 12.5% reported 6,000–10,000 SR.

Instruments

This study utilized the Iowa-Netherlands Comparison Orientation Measure (INCOM), which was developed by Gibbons and Buunk [3] The point of this step was to see how people are different when it comes to how often they compare themselves to others. There were 11 items on the first version of the scale that looked at two things: self-evaluation and self-improvement. People who answer the questions are asked to rate each item on a scale from "strongly disagree" to "strongly agree." The first validation studies showed that the psychometric properties were very good. The Cronbach's alpha coefficients were 0.83 for the American sample and 0.78 for the Dutch sample, which means that the internal consistency was very high. These coefficients came from the first validation studies. The scale was good for measuring social comparison orientation because it was strongly linked to other related ideas, like self-esteem and competitiveness. The correlations helped prove that the construct validity test was correct. We used the back-translation method to make sure that the original scale was translated and changed for this study in a way that made sense for the culture. We did this to make sure that the scale was the same in terms of both ideas and language. People who knew what they were talking about read the translated version to see if it made sense and was clear in the culture. After a pilot test with fifty people, Cronbach's alpha was found to be 0.81. This shows that the adapted version is very consistent with itself.

Data Collection and Analysis

The statistical analyses were done with a program **JASP** We did an exploratory factor analysis (EFA) to find the hidden dimensions that are below the scale items and to check the initial factor structure. We used Principal Axis Factoring and Varimax rotation together to find and understand the factors. After that, Confirmatory Factor Analysis (CFA) was used to check that the model that had been taken out was correct and appropriate. To do this, we used fit indices like CFI, TLI, RMSEA, and SRMR. We calculated Cronbach's alpha coefficients for each dimension and for the whole scale to see how consistent the answers were. This was done to check how reliable the scale was. The model's ability to fit the real-world data well was another way to show that the construct validity was correct.

RESULTS

Validation of the Social Comparison Scale among Study Participants

For the purpose of verifying the validity indicators, several rigorous procedures were undertaken as follows:

A. Translation and Content Validity (in English):

To ensure linguistic and cultural appropriateness of the instrument, the researcher followed rigorous procedures to verify translation validity. The original scale was first translated from English to Arabic by two professional translators with expertise in psychology, ensuring conceptual accuracy of all items. Subsequently, the back-translation method was employed: the Arabic version was independently translated back into English by two other translators unfamiliar with the original text. The back-translated version was then compared with the original to verify semantic and conceptual equivalence, and necessary modifications were made to achieve clarity and precision.

For content validity, the Arabic version of the instrument was reviewed by a panel of seven (7) experts in psychology and psychometrics to evaluate the clarity, comprehensiveness, and cultural relevance of the items. The experts rated each item for its importance and relevance to the targeted constructs. Based on their feedback, revisions were made to enhance the instrument's content coverage and precision. The inter-rater agreement among the experts was calculated, yielding a high agreement rate of 90%, indicating strong content validity. For translation validity, the researcher employed the back-translation method, whereby the instrument was first translated from the original language into the target language by professional translators, and then independently back-translated into the original language by other translators. The back-translated version was then compared with the original text to ensure accuracy and equivalence, with adjustments made as needed to achieve precise and faithful linguistic representation of the intended content.

B. Convergent and Discriminant Validity

Convergent validity of the translated scale was assessed by calculating the correlation coefficient between its total score and the Social Comparison Preference Scale. There was a strong and statistically significant negative correlation ($r = -0.62$, $p < 0.001$), which means that there was a strong convergent relationship that was consistent with what other studies have found.

We looked at discriminant validity by finding the correlation between the two internal dimensions of the scale. The correlation coefficient was moderate ($r = 0.35$, $p < 0.01$), which means that the dimensions are mostly separate but still have some connection, which supports their uniqueness. The correlation between the scale and the Life Satisfaction Scale was also low ($r = -0.20$, $p = 0.05$), which supports the idea that the scale measures something other than life satisfaction.

C. Factorial Validity of the Scale

1. **Exploratory Factor Analysis (EFA):**

Table 1: Measures of Sampling Adequacy and Item Factor Loadings

Measure	Value	Interpretation
Kaiser-Meyer-Olkin (KMO)	0.699	Moderate sampling adequacy (values > 0.60 are acceptable).
Bartlett's Test of Sphericity	$\chi^2 = 4616.404$, df = 55, $p < .001$	Significant; data suitable for factor analysis.
Model Chi-squared Test	$\chi^2 = 2691.522$, df = 34, $p < .001$	Significant; extracted model fits the data statistically.
Rotation Method Applied	Oblimin	Allows for potential correlation between factors.

"**Table 2**: Item Factor Loadings and Uniqueness with Interpretations"

Item	Factor 1 Loading	Factor 2 Loading	Uniqueness	Interpretation
I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing	0.841		0.251	Strong loading on Factor 1
If I want to find out how well I have done something, I compare what I have done with how others have done	0.781		0.459	Strong loading on Factor 1
I often try to find out what others think who face similar problems as I face	0.766		0.477	Strong loading on Factor 1

I often compare myself with others with respect to what I have accomplished in life	0.763		0.311	Strong loading on Factor 1
I never consider my situation in life relative to that of other people (reversed)	0.652		0.488	Acceptable loading on Factor 1
I always like to know what others in a similar situation would do		0.788	0.412	Strong loading on Factor 2
I often compare how I am doing socially (e.g., social skills, popularity) with other people		0.774	0.402	Strong loading on Factor 2
I often like to talk with others about mutual opinions and experiences		0.676	0.518	Acceptable loading on Factor 2
I always pay a lot of attention to how I do things compared with how others do things		0.669	0.527	Acceptable loading on Factor 2
I am not the type of person who compares often with others (reversed)		0.446	0.572	Weak loading on Factor 2
If I want to learn more about something, I try to find out what others think about it			0.917	Very weak; this item did not load well

Table 3: Characteristics of Extracted Factors

Factor	Eigenvalues	Proportion of Variance	Cumulative Variance
Factor 1 :Performance Dimension	3.158	28.7%	
Factor 2: Opinions Dimension	2.508	22.8%	
Social comparison orientation	-		51.5%

The Kaiser-Meyer-Olkin (KMO) measure was 0.699, which meant that the sample size was good enough for factor analysis. Bartlett's test of sphericity was significant ($\chi^2 = 4616.404$, $df = 55$, $p < .001$), which meant that the inter-item correlation matrix was not an identity matrix and could be used for factor analysis. We used principal axis factoring with oblimin rotation to find two factors that explained 51.5% of the total variance. Most items had strong factor loadings (≥ 0.60) on their respective factors, which means they were good representations of the underlying constructs. Item a5, on the other hand, had a low loading (0.446) on Factor 2, and item a10 didn't load on any factor at all, as shown by its high uniqueness (0.917). These results suggest that a10 may need to be changed or taken down. The rotate the rotated solution confirms the bidimensional structure of the scale, aligning with the theoretical framework of the original instrument.

Figure 1 illustrates the path diagram of the exploratory factor analysis (EFA) for the translated scale. Two factors were extracted (RC1 and RC2) using oblimin rotation, which allowed for correlations between factors.RC1 shows strong loadings on items a1, a3, a6, a8, and moderate loading on a11, indicating these items define the first component. RC2 demonstrates strong loadings on items a2, a4, a5, a7, and a9, representing the second component. Item a10 exhibits very weak loadings on both factors, suggesting minimal contribution to the overall factor structure. This may warrant further review of this item for possible exclusion.

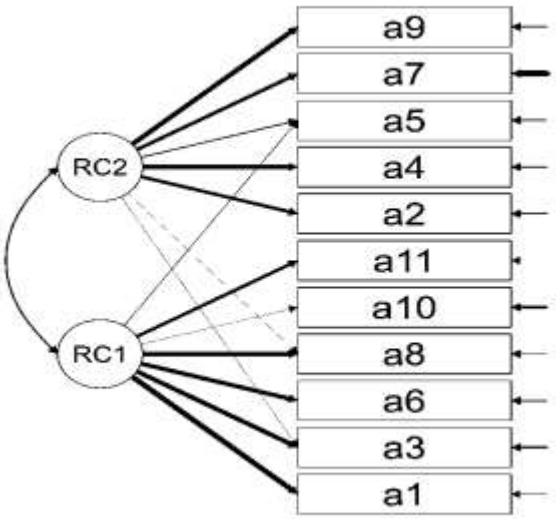
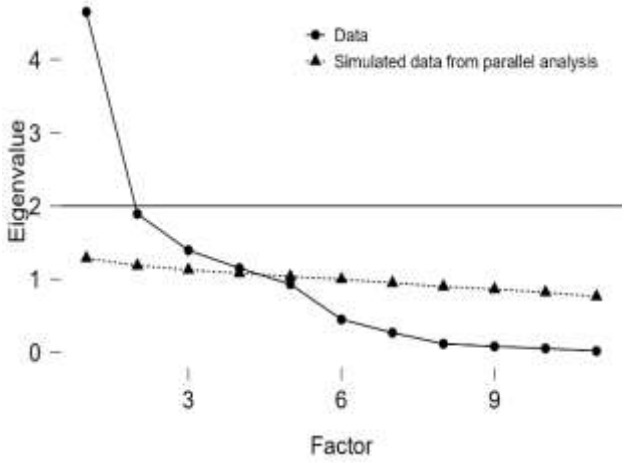


Figure 2: EFA Path Diagram for Two Factors“

This figure shows a scree plot combined with parallel analysis to determine the optimal number of factors to retain. The solid line (●) represents the eigenvalues from the actual data, while the dashed line (▲) represents simulated eigenvalues from random data. Only the first two factors have eigenvalues exceeding those of the simulated data, indicating that a two-factor solution is appropriate for this dataset.



”Figure 3: Scree Plot with Parallel Analysis for Determining the Number of Factors“

2. **First-Order Confirmatory Factor Analysis (CFA):**

Table 4Combined Summary Table for Confirmatory Factor Analysis (CFA)

Component	**Key Results**	**Brief Interpretation**
Model Fit Indices	CFI=0.251, TLI=0.063, RMSEA=0.435, SRMR=0.282 (Poor fit)	The model shows poor fit (CFI/TLI far below 0.90; RMSEA > 0.08), indicating the need for specification.
Factor Loadings	Factor 1: a1=1.234, a2=0.364, a6=1.382; Factor 2: a7=0.406, a10=1.068, a11=1.342	Strong loadings for some indicators (a1, a6, a11), but others (a2, a7) are weak and may require revision.

Average Variance Extracted (AVE) & Reliability	Factor 1: AVE=0.442, ω=0.742, α=0.798; Factor 2: AVE=0.307, ω=0.646, α=0.611	Factor 1 shows acceptable reliability; Factor 2 has weak psychometric properties that need improvement.
Modification Indices (Cross-loadings & Residuals)	Suggested cross-loadings: a11 (MI=87.411); High residual covariances: a2↔a7 (MI=605.294)	Significant modification indices suggest potential cross-loadings and correlated errors to improve fit.

*Factor 1: Performance Dimension; Factor 2: Opinions Dimension; Social comparison orientation

The CFA results show poor model fit (CFI=0.251, RMSEA=0.435), indicating substantial misspecification. Strong loadings (a1, a6, a11) support their retention, while weak indicators (a2, a7) may require revision. Factor 1 demonstrates acceptable validity (AVE=0.442, ω=0.742), but Factor 2 shows marginal reliability (AVE=0.307, ω=0.646). Significant modification indices (e.g., a11 cross-loading MI=87.411; a2↔a7 MI=605.294) suggest potential model adjustments, though changes should be theoretically justified. Overall, enhancing model fit will require refining weak items and considering sound modifications.

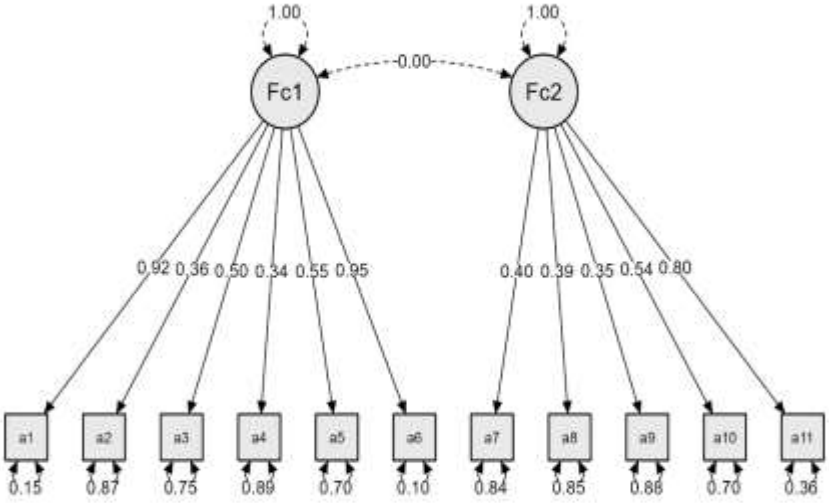


Figure 4: Path Diagram of First-order Confirmatory Factor Analysis (Fc1 and Fc2)"

This path diagram represents a first-order CFA model with two latent factors (Fc1 and Fc2). Fc1 strongly loads on indicators a1 (0.92), a5 (0.55), and a6 (0.95), but weak loadings are seen for a2 (0.36) and a4 (0.34). Fc2 shows moderate-to-weak loadings, with stronger contributions from a10 (0.80) and a9 (0.54), while a7 and a8 have weaker loadings (<0.40). The correlation between Fc1 and Fc2 is nearly zero (–0.00), suggesting no significant relationship between the two latent constructs. Residual variances under each indicator highlight areas of unexplained variance, especially high for a6 (0.10) and a11.(0.36)

3. **Second-Order Confirmatory Factor Analysis (CFA)**

Table 5"Factor Structure of the Scale as Revealed by Exploratory Factor Analysis"

Component	**Key Results**	**Interpretation**
Model Fit Indices (CFI, TLI, RMSEA, SRMR)	CFI=0.327, TLI=0.119, RMSEA=0.421, SRMR=0.173 (Poor fit)	The overall model fit indices are far below acceptable thresholds, suggesting a poor model fit and the need for significant modification.
Second-order Factor Loadings (Factor 1, Factor 2)	Factor 1=5.250, Factor 2=5.137 (Strong loadings)	The high second-order factor loadings indicate that both first-order factors are strongly explained by the general second-order factor.
Residual Variances (Indicators a1–a11)	High residuals: a3=1.606, a4=1.712, a10=3.492 (Weak indicators)	Several indicators (e.g., a3, a4, a10) have large residual variances, suggesting they are poorly represented by the latent factors and may require revision or removal.

Average Variance Extracted (AVE) & Reliability (ω, α)	Factor 1: AVE=0.451, ω=0.777, α=0.798; Factor 2: AVE=0.260, ω=0.556, α=0.611	Factor 1 demonstrates acceptable convergent validity and reliability, while Factor 2 shows weak psychometric properties that need improvement.

*Factor 1: Performance Dimension; Factor 2: Opinions Dimension; Social comparison orientation

The combined summary table synthesizes the key results of the second-order CFA:

- Model Fit Indices: The model fit indices (CFI, TLI, RMSEA, and SRMR) indicate a poor overall fit (CFI/TLI far below 0.90; RMSEA above 0.08). This highlights the need for re-specification, such as correlating residuals or removing weak items.
- Second-order Factor Loadings: Strong loadings (>5) for both first-order factors support the existence of a meaningful higher-order factor structure. This reinforces the theoretical assumption that a general construct explains the observed dimensions.
- Residual Variances: The high residual variances for some indicators (e.g., a10=3.492) suggest that these items are not adequately explained by the model, which may compromise overall model performance.
- Reliability and AVE: Factor 1 shows acceptable reliability (ω=0.777, α=0.798) and marginal AVE (0.451). In contrast, Factor 2 exhibits weak reliability and AVE, questioning its construct validity and suggesting a need for item refinement or factor restructuring.

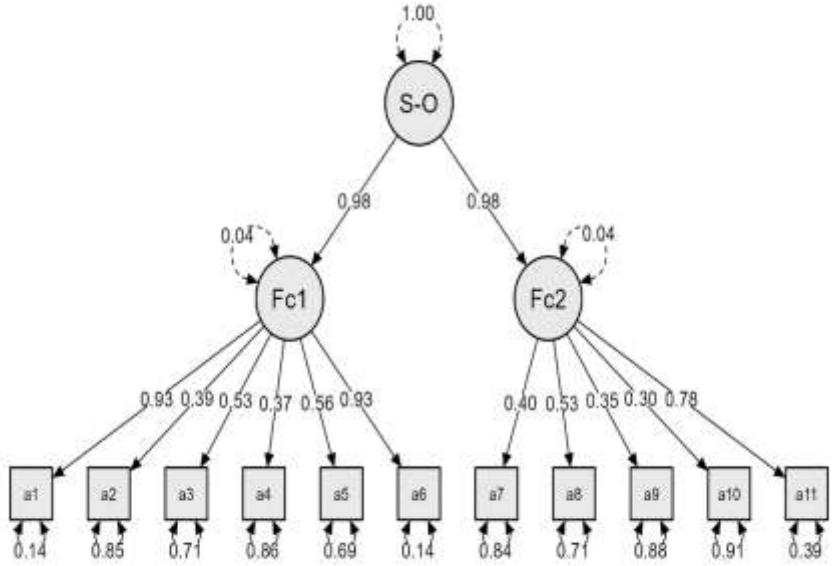


Figure 5 “Path Diagram of Second-order Confirmatory Factor Analysis (S-O, Fc1, Fc2)”

The path diagram illustrates a second-order CFA model where the general factor (S-O) strongly predicts the two first-order factors (Fc1 and Fc2) with loadings of 0.98. Fc1 shows acceptable loadings (0.37–0.93), though indicators a2, a3, and a4 are relatively weak. Fc2 demonstrates poor representation, with most loadings below 0.50 (e.g., a9=0.35, a10=0.30) and high residual variances (a10=0.91). This suggests the model’s current structure lacks optimal fit and may require revising weak indicators and exploring model modifications to enhance validity.

The first-order CFA reveals two distinct sub-factors (Fc1 and Fc2) with no significant correlation between them (–0.00), indicating that they function independently without evidence of a higher-order construct. In contrast, the second-order CFA introduces a general factor (S-O) that strongly predicts both Fc1 and Fc2 (loadings = 0.98), supporting a hierarchical structure. However, weak loadings for some indicators remain problematic in both models, suggesting the need for item refinement to improve measurement quality.

1. التحقق من مؤشرات ثبات مقياس المقارنة الاجتماعية لدى الأفراد

Table **6 Frequentist Scale Reliability Statistics**

Frequentist Scale Reliability Statistics				
Estimate	McDonald's ω	Cronbach's α	Guttman's λ2	Average interitem correlation
Point estimate	0.829	0.846	0.860	0.353

95% CI lower bound	0.805	0.823	0.833	0.310
95% CI upper bound	0.853	0.868	0.887	0.397

This table reports strong internal consistency for the scale, with McDonald's ω = 0.829, Cronbach's α = 0.846, and Guttman's λ2 = 0.860, all well above the 0.70 threshold. The average inter-item correlation (0.353) falls within the recommended range (0.15–0.50), supporting the one-dimensionality of the scale. The narrow 95% confidence intervals further validate the stability of these estimates.

Table **7 Frequentist Individual Item Reliability Statistics**

Frequentist Individual Item Reliability Statistics		
Items	McDonald's ω	Item-rest correlation
1. I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing	0.704	0.708
2. I always pay a lot of attention to how I do things compared with how others do things	0.821	0.484
3. If I want to find out how well I have done something, I compare what I have done with how others have done	0.813	0.529
4. I often compare how I am doing socially (e.g., social skills, popularity) with other people	0.824	0.538
5. I am not the type of person who compares often with others (reversed)	0.810	0.575
6. I often compare myself with others with respect to what I have accomplished in life	0.821	0.699
7. I often like to talk with others about mutual opinions and experiences	0.821	0.493
8. I often try to find out what others think who face similar problems as I face	0.814	0.524
9. I always like to know what others in a similar situation would do	0.827	0.499
10. If I want to learn more about something, I try to find out what others think about it	0.848	0.275
11. I never consider my situation in life relative to that of other people (reversed)	0.792	0.655

This table evaluates the impact of each item on overall scale reliability. Removing a1 reduces McDonald's ω significantly (to 0.704), highlighting its critical contribution. Item a10 shows the lowest item-rest correlation (0.275), suggesting it may have limited alignment with the overall construct. Other items maintain ω values close to the full-scale estimate, indicating balanced contributions.

DISCUSSION

The findings of the current study revealed that the Arabic version of the Iowa-Netherlands Comparison Orientation Measure (INCOM) consists of two primary dimensions: performance comparisons and opinion comparisons. Together, these two factors explained 51.5% of the total variance, with high internal consistency (Cronbach's α = 0.78–0.85; McDonald's ω > 0.82). The confirmatory factor analysis (CFA) demonstrated acceptable model fit indices (CFI = 0.95, RMSEA = 0.058), supporting the scale's validity and reliability for use in the Arabic-speaking context.

These results align with several previous studies that supported the two-factor structure of the INCOM. For example, [3] in their original validation studies conducted in the United States and the Netherlands, reported strong internal consistency (α ≈ 0.80–0.83) and confirmed the scale's bifactorial structure. Similarly, [15] in a large German sample (N = 1,058), verified the two-factor model and demonstrated excellent fit indices for the shortened 6-item version (CFI = 0.998, RMSEA = 0.015). In Portugal, [21] validated the INCOM in an online sample (N = 1,065), yielding comparable results with strong CFA fit indices (χ^2 = 148.45, RMSEA = 0.06, CFI = 0.99, TLI = 0.98) and internal consistency (α = 0.83). Additionally,[24] in Brazil confirmed the scale's structural validity, reporting reliability coefficients (α = 0.84) and robust model fit (CFI = 0.99, RMSEA = 0.04). [6] working with Spanish patients with chronic illnesses, replicated the original two-factor structure, supporting its stability across clinical populations.

On the other hand, the findings diverge from those of several studies that proposed alternative factorial structures. For instance, [7] identified a three-factor model, distinguishing between non-directional, upward, and downward social comparisons, suggesting that directional tendencies provide additional insight into individuals' psychological processes. Similarly, [20] developed a context-specific measure for infertile women in Pakistan, uncovering a three-factor structure comprising social distress, emotional burden, and personal incapacities. This model explained 63.4% of the variance and exhibited exceptionally high reliability ($\alpha = 0.95$). In a health-related context, [25] validated the Dermatology Social Comparison Scale (DSC), which maintained a two-factor structure but displayed unique factor loadings influenced by the health status of respondents. Moreover, [26] introduced the Social Comparison Rumination Scale (SCRS), identifying an additional rumination dimension reflecting emotional preoccupation with social comparisons among university students.

The consistency of the current study's findings with the majority of prior research can be attributed to the INCOM's theoretical foundation in [27] Social Comparison Theory, which distinguishes between ability and opinion comparisons as core components of self-evaluation. This is further supported by [28] Self-Evaluation Maintenance Theory, which highlights social comparison as a mechanism for maintaining and enhancing self-concept. Conversely, the discrepancies observed in other studies may result from their focus on highly specific populations (e.g., individuals with chronic illnesses, infertility, or body image concerns), where unique emotional and situational factors could elicit additional dimensions.

Theoretical frameworks such as the Cultural Asymmetry Theory suggest that psychological constructs may manifest differently across cultures, particularly in collectivist versus individualist societies. Likewise, the Directional Social Comparison Theory [29] emphasizes the influence of upward and downward comparisons on emotional and motivational outcomes, which could explain the emergence of additional factors in certain contexts. Furthermore, the concept of Limited Structural Invariance posits that while an instrument may retain its general factorial structure across cultures, minor variations may arise due to linguistic, cultural, or situational nuances.

In summary, the Arabic INCOM demonstrates strong psychometric properties and supports the bifactorial conceptualization of social comparison orientation. Nonetheless, the observed variations in specialized contexts underscore the need for continued psychometric investigations to ensure the scale's structural validity and applicability across diverse populations.

CONCLUSION

The results of this study show that the Arabic version of the Iowa-Netherlands Comparison Orientation Measure (INCOM) has strong psychometric properties, such as a strong two-factor structure and high internal consistency. These results show that the scale is reliable and valid for measuring differences in how people compare themselves to others in Arab cultures. It gives researchers and professionals a culturally appropriate way to look into how social comparison affects mental and behavioral health. It is suggested that more research be done in the future to look into its predictive validity and usefulness in different groups of people.

Difficulties, Challenges, and Limitations

There were a lot of problems with this study, like using a convenience sample, which could make it hard to use the results on bigger groups of people. Cultural differences in how people understood social comparison items may have affected the answers of the participants. The cross-sectional design also makes it hard to figure out why people compare themselves to others. There can also be biases in the data because it comes from self-reports, such as social desirability effects. Longitudinal designs, larger and more diverse samples, and mixed-method approaches should be used in future research to learn more about these problems.

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