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Change in Maslow's hierarchy of basic needs: evidence from the study of well-being in Mexico

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Título: Cambio en la jerarquía de necesidades básicas de Maslow: evidencia desde el estudio del bienestar subjetivo en México.
Resumen: La pirámide de Maslow es un símbolo que ha perdurado en la imagen de psicólogos, científicos, empresarios y políticos de todo el mundo; su premisa expresa jerarquización de necesidades, pero en ocasiones se confunde con secuencialidad y ascendencia de satisfacción que inicia con necesidades fisiológicas y culmina con autorrealización. En el presente artículo se examina empíricamente la jerarquía de necesidades básicas desde el enfoque del bienestar subjetivo en México. Los análisis se llevan a cabo con una muestra de 38,560 casos de la población mexicana, empleando un modelo de regresión lineal múltiple stepwise forward. Como hallazgo principal se encuentra que las necesidades de amor y pertenencia son las que explican en mayor grado la satisfacción con la vida, la jerarquía propuesta por Maslow cambia en tanto su importancia para el bienestar subjetivo. Se discute la relevancia de las necesidades de pertenencia como factor explicativo del bienestar en México.
Palabras clave: Motivación. Gratificación. Pertenencia. Relaciones interpersonales. Felicidad.

Abstract: Maslow's pyramid is a symbol that has endured in the image of psychologists, scientists, businessmen and politicians around the world; its premise expresses a hierarchy of needs, but sometimes this idea is confused with sequentiality and ascendancy of satisfaction that begins with physiological needs and ends with self-actualization. This article examines empirically the hierarchy of basic needs from the perspective of subjective well-being in Mexico. The analyzes are carried out with a sample of 38,560 cases from the Mexican population, using a stepwise forward multiple linear regression model. The main finding is that the needs for love and belonging are the ones that explain satisfaction with life to a greater degree, the hierarchy proposed by Maslow changes insofar as its importance for subjective well-being. The relevance of belonging needs as explanatory factor of well-being in Mexico is discussed.
Key words: Motivation. Gratification. Belonging. Relationships. Happiness.

Introduction

Maslow's (1943) theory of basic needs evokes the imagery of a pyramid comprising five tiers delineating human necessities (Bridgman et al., 2019). This iconic representation endures within numerous psychology textbooks elucidating the realms of motivation and need fulfillment (Wininger & Norman, 2010). Moreover, it remains entrenched within the consciousness of scholars, entrepreneurs, and policymakers alike (Feigenbaum & Smith, 2020; Greene & Burke, 2007; Ryan & Deci, 2017). Embedded within this conceptual framework are notions of sequentiality, linearity, and priority among its constituent needs (Davies, 1991; Yang, 2003), suggesting an ascending hierarchy of gratification, starting from lower or deficit needs towards higher or growth-oriented needs (Hagerty, 1999; Maslow, 1968/2014; Navy, 2020; Noltemeyer et al., 2012; Noltemeyer et al., 2020).

Maslow's Hierarchy of Basic Needs (HBN) theory has traditionally been construed as a model of ascending gratification, satisfaction, and well-being, often imbued with normative implications (Ryff, 2018), rather than solely descriptive of human behavior (Biswas-Diener & Kashda, 2021). Alternative perspectives on needs have emerged (Ryan & Deci, 2017), particularly those emphasizing a temporal and sociocultural context (Oishi, 2010; Sánchez-Aragón & Diaz-Loving, 2016; Rojas & Elizondo-Lara, 2016). Consequently, needs can be examined through the lens of subjective well-being (Rojas & Guardiola, 2016; Tay & Diener, 2011).

This perspective begins with the premise that individuals assess their own lives (Diener, 1984; Diener et al., 2017; Rojas, 2020), with its most studied components being positive and negative affect (Pressman et al., 2019; Tamir et al., 2017; Watson et al., 1988), and life satisfaction (Diener et al., 1998). In the current study, life satisfaction (LS) will serve as the focal point of subjective well-being, encompassing cognitive aspects and judgments that individuals directly form about their own lives (Diener et al., 1985), including global evaluations, life trajectory, goals, achievements, failures, aspirations, expectations, and, overall, circumstances that shape evaluative experiences of well-being (Rojas, 2020).

The aim of this research is to propose an empirical investigation into the sequence and significance of the HBN and its influence on LS. The conventional classification delineated within the needs pyramid is deliberated, contrasting its sequential interpretation with the reconfiguration of its tenets within the Mexican population.

Maslow's theory: review and critique

Psychological theories of motivation examine human needs (Narvaez & Noble, 2018), whether they are psychobiological or psychosocial in nature (Ryan & Deci, 2017). Maslow (1954/1970) encapsulates both categories within five fundamental needs: physiological, security, love and belonging, esteem, and self-actualization; the first three repre-

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sent deficit motivations that energize behavior, directing it towards the reduction of needs and the attainment of security (Di Domenico, 2020). Conversely, the latter two signify growth motivations aimed at fostering the development of human potential (Maslow, 1968/2014).

The HBN is commonly referenced in most introductory psychology texts (Di Domenico, 2020; Wininger & Norman, 2010). Although Maslow never explicitly presented his theory as a pyramid, this visual metaphor became widely disseminated as a symbol of motivation within organizational studies. The origins of this symbolic representation can be traced back to the works of Keith Davis (1957) and Charles McDermid (1960), who depicted Maslow's assumptions in pyramid form (Bridgman et al., 2019; Wahba & Bridwell, 1976). However, it is conceivable that this depiction drew inspiration from Maslow's own writings (1943), wherein he delineates degrees of partial need satisfaction:

> If I may assign arbitrary figures for the sake of illustration, it is as if the average citizen is satisfied perhaps 85 per cent in the physiological needs, 70 per cent in his safety needs, 50 per cent in his love needs, 40 per cent in his self-esteem needs, and 10 per cent in his self-actualization needs (Maslow, 1943: 388-389).

The percentages of satisfaction are organized in a manner that progresses from the highest to the lowest level of gratification. However, the HBN transcends a strictly pyramidal structure. Maslow (1943) delineates basic needs through a broad description and criticizes specific lists of needs, as they imply a uniformity of needs that may vary among different human groups (Narvaez & Noble, 2018; Yang, 2003). Needs are not mutually exclusive; rather, the most appropriate approach to understanding the HBN is to perceive needs as interdependent rather than independent, with areas of overlap among all needs (Wahba & Bridwell, 1976). Additionally, expressed desires may serve as means to satisfy more than one need (Narvaez & Noble, 2018). These considerations underscore needs as a hierarchy that is contingent on context, rather than merely a sequentially organized bottom-up structure.

Hierarchy, rather than denoting a rigid sequence, embodies organization and emergence, predicated on the extent of satisfaction within each sphere of needs, which are multiple rather than strictly hierarchical (Ryan & Deci, 2017). It is a misconception surrounding this theory to insist that lower needs must be entirely fulfilled before progressing to higher needs (Compton, 2018), and it is erroneous to assert that the hierarchy is uniform across all individuals and societies (Bridgman et al., 2019). Thus, the hierarchy does not necessitate a linear progression of satisfaction (Yang, 2003); it is not universal but can delineate the level of satisfaction a society attains with certain needs. It reflects the priorities and preferences of a population, thus contributing differentially to well-being and life satisfaction depending on the society under scrutiny.

Development within societies can be conceptualized akin to Maslow's notion of progression, wherein hierarchy entails the emergence of higher-level needs once the basic ones have been fulfilled. However, it is essential to discern that progress should not be equated with hierarchy in the context of the misconceptions surrounding self-actualization (Compton, 2018), but rather understood as a complementary organization among needs (Krys et al., 2019). There may exist groups wherein self-esteem holds greater significance than love, thereby reversing the strata of this organizational structure. Consequently, needs of higher hierarchical standing are positioned at the base of the pyramid, as they wield greater influence in motivating behavior and fostering well-being within a given society, contingent upon the socio-cultural characteristics of the population.

Subjective well-being and basic needs

Maslow (1954/1970) highlighted the implications of his theory for the examination of happiness and well-being. In contrast to the lower needs that engender a sense of tranquility, the higher needs yield profound happiness, serenity, and richness of inner life. Consequently, advocating for a comprehensive conceptualization of needs that accentuates well-being not merely as survival but also as an encounter with being well should be advocated (Rojas, 2020).

There is no clear evidence regarding the correlation between need gratification or deprivation and changes in well-being (Rojas & Guardiola, 2016). The proposed order of need gratification within the hierarchy warrants scrutiny, as findings have yielded mixed results, suggesting that social contexts modulate the emergent sequence of needs (Tay & Diener, 2011; Yang, 2003). It is noteworthy that, at least in "normal" societies as conceived by Maslow, which he defines as "good" or healthy, physiological and safety needs are partially met. In such societies, individuals are facilitated to experience a sense of calmness, efficient functioning, and minimal disruptions arising from natural or societal crises (Maslow, 1943; Narvaez & Noble, 2018).

Basic, respect, autonomy, and social needs exhibit significant associations with well-being (Tay & Diener, 2011). Basic needs align with physiological and safety needs, respect needs correspond to Maslow's esteem needs, autonomy needs are linked with esteem and self-actualization (Deci & Ryan, 2012), and social needs bear resemblance to love and belonging (Baumeister & Leary, 1995). While the fulfillment of needs for sustenance, shelter, and income strongly correlates with life evaluation, respect, and social needs exhibit stronger associations with positive emotions. Moreover, respect and autonomy needs demonstrate notable and inverse relationships with negative emotions (Tay & Diener, 2011). Consequently, the impacts of needs on well-being are multifaceted, and their relative significance may fluctuate depending on individual values and socio-cultural contexts (Tamir et al., 2017).

The linkage between basic needs and well-being extends beyond the realm of subjective well-being. Self-actualization serves as a cornerstone in the facets of psychological well-being (Ryff, 2018). Key dimensions such as autonomy or

self-determination, life purpose, and personal growth bear resemblance to the concept of self-actualization. Autonomy has been observed to correlate with self-actualization, self-esteem, ego development, and a proclivity to endorse the autonomy of others (Deci & Ryan, 2012).

Examination of the impacts of basic needs on subjective well-being reveals that lower needs demonstrate diminishing marginal utility (Lee, 2011; Li & Hsee, 2021; Tay & Diener, 2011), thereby corroborating the notion that well-functioning societies tend to exhibit elevated levels of satisfaction in these domains (Narvaez & Noble, 2018). Consequently, these needs may not necessarily occupy the most pivotal position within the hierarchy.

According to Maslow (1968/2014), belonging needs are positioned in the middle of his hierarchy, emerging only after physiological and safety needs have been met. Despite this, social bonds hold inherent benefits for survival and reproduction, as groups can facilitate resource sharing, offer companionship, and provide support for offspring care (Baumeister & Leary, 1995). Additionally, variations in attachment styles among individuals are predictive of well-being (MacDonald & Park, 2021), and experts advocate for social relationships as optimal political strategies to enhance happiness and life satisfaction (Buettner et al., 2020).

Maslow overlooked the empirical evaluation of the HBN and the relative placement of love and belonging needs within his model. Consequently, the current study seeks to address the following questions: What is the correlation between basic need fulfillment and subjective well-being, and which of the basic needs serve as robust predictors of subjective well-being? Specifically, the hypothesis posits that the hierarchy of needs will not substantiate the sequence initially proposed by Maslow, with love and belonging needs emerging as the most influential factors in elucidating subjective well-being.

Methods

Participants

We conducted an analysis utilizing data from the Self-Reported Well-Being Module (BIARE) and Socioeconomic Conditions Module (MCS) of the National Household Expenditure Survey (ENIGH), collected by the National Institute of Statistics and Geography (INEGI) in Mexico in 2014. The sample comprised a probabilistic and random selection of individuals aged 18 years and older, ensuring national representativeness and segmentation by federal entity. The participant selected from each household was the adult closest to their birthday. The total sample size was 38,560 participants, consisting of 55.82% women and 44.18% men, with a M_{age} = 42.72 ± 16.50 years, ranging from 18 to 97 years old. Regarding educational attainment, 6.1% had no formal schooling, 55.1% had completed basic education, 22.3% had technical education or high school diplomas, 15% had attained higher education degrees, and 1.6% had completed postgraduate studies. Geographically, 23.7% of participants resided in towns with fewer than 2,500 inhabitants, 31% in towns with populations ranging from 2,500 to 99,999 inhabitants, and 45.3% in towns with over 100,000 inhabitants. In terms of socioeconomic status, 18.4% of participants were classified as low, 73.2% as medium, and 8.4% as high. The participants were drawn from all 32 states of the Mexican Republic, with an M = 1,205 and SD = 107.58 cases per state.

Measures

The MCS and BIARE surveys assess various life domains within the Mexican population, including economic conditions, employment, housing, health, family dynamics, food security, material possessions, contextual factors, and others. These surveys constitute two components of the interviews conducted within a multistage survey process (INEGI, 2014), and the indicators captured therein can be aligned with the five tiers of Maslow's pyramid. In order to establish a valid and reliable measurement of the HBN, a total of 14 indicators from the MCS and BIARE surveys have been carefully selected as proxies for the needs. This selection process involved verifying the empirical data's alignment with Maslow's theoretical framework (Table 1).

Table 1
Dimensions that constitute Maslow's five basic needs and measure for life satisfaction (content validity)

Variables	Dimensions	Description	Response range
Subjective Well-being	Life satisfaction	Could you tell me how satisfied you are with yoy life at the moment?	0-10[c]
Needs*			
Physiological	Food gratification[b]	Six questions: 1) worried about food running out, 2) no food, 3) little variety in food, 4) adult with little variety of food, 5) stopped eating some food and, 6) ate less.	*Yes* and *No* for each question. Scale 0-6 for Gratification.
	Household goods[b]	It lists eight household possessions: refrigerator, washing machine, microwave oven, computer, stove, car, blender and digital television.	Yes and *No* for the eight possessions. Scale 0-8 possessions.
	Frequency of food consumption[b]	Frequency of consumption per week of fruit, vegetables, meat, dairy products and fish.	Food consumption per week, from 0 days to 7 days per week.

Safety	Citizen security[a]	How satisfied are you with your citizen security?	0-10[c]
	Living place	How satisfied are you with your living place?	0-10[c]
	Neighborhood[a]	How satisfied are you with your neighborhood?	0-10[c]
Love and belonging	Social life[a]	How satisfied are you with your social life?	0-10[c]
	Affective life[a]	How satisfied are you with your affective life?	0-10[c]
	Familiar life[a]	How satisfied are you with your familiar life?	0-10[c]
Esteem	Self-esteem[a]	In general, I feel very good about myself.	0-10[c]
	Life achievements[a]	Most days I feel like I've accomplished something.	0-10[c]
Self-actualization	Ideal of life[a]	In most things my life is close to my ideal.	1 *Completely disagree*; 7 *completely agree*.
	Purpose in life	I feel like I have a purpose or a mission in life.	0-10[c]
	Meaning of life[a]	I usually feed that what I do in my life is worthwhile.	0-10[c]

[a]BIARE Ampliado (Modulo de Bienestar Autorreportado), [b]MCS-ENIGH (Modulo de Condiciones Socioeconómicas), INEGI, 2014; [c]0-10 = 0 *completely disagree*; 10 *completely agree*.
*The 14 dimensions are approximations based on the literature and ratified with factor analysis (Table 2 and 3).

Ten of the 14 proposed dimensions utilize the same response ranges (0-10), while the remaining four have ranges less than 10 (Table 1). Direct scores from the 14 dimensions were employed for dimension reduction to the five needs through exploratory factor analysis (EFA) utilizing the principal axis factorization method and orthogonal rotation to evaluate the fit of the factorial matrix to the HBN. Through EFA, four distinct factors emerged within the HBN (Table 2), with some overlap observed between the dimensions proposed as proxies for esteem and self-actualization. This overlap prompted a secondary EFA aimed at discriminating between these two needs.

Table 2
Factor matrix of the dimensions of basic needs (construct validity)

Dimensions	Esteem and Self-actualization	Physiological	Safety	Love and belonging
Life achievements	.732			
Purpose of life	.701			
Meaning of life	.653			
Self-esteem	.431			
Ideal of life	.332			
Frequency of food consumption		.769		
Household goods		.684		
Food gratification		.570		
Neighborhood			.642	
Living place			.528	
Citizen security			.455	
Familiar life				.658
Affective life				.611
Social life				.414
Cronbach's alpha	.783	.721	.590	.680

Note. KMO = .858; Bartlett's test of sphericity X^2 (91) =139,768.802, $p \leq .001$; Determinant = .027; 59.54% of total variance explained by four factors, high communality in: Life achievements (h^2 = .616) and frequency of food consumption (h^2 = .602). Only the saturation weights $\lambda \geq .300$ are shown in the matrix.

The second EFA aimed at clarifying the distinction between esteem and self-actualization needs included the five indicators associated with these dimensions in the analysis. The results demonstrated a satisfactory fit of the dimensions to the two overlapping needs, with both levels of internal consistency reliability deemed adequate (Table 3).

Table 3
Factorial analysis for esteem and self-actualization needs

Dimensions	Self-actualization	Esteem
Meaning of life	.502	
Purpose of life	.747	
Ideal of life	.232	
Self-esteem		.631
Life achievements		.475
Alfa de Cronbach	.645	.606

Note. KMO = .809; Bartlett's test, X^2 (10) = 52,180.064, $p \leq .001$; *D*=.258; 69.52% of variance explained, high communities in: Purpose of life (h^2 = .628) and Self-esteem (h^2 = .457).

The validation of the adjustment of the 14 dimensions to the HBN facilitated the creation of five interval variables through nonlinear transformation processes of the needs. A decile scale (*D*) was employed due to the familiarity of the scores. The objective of this transformation was to standardize the scores of the variables following the summation of their scores across the dimensions of each need group, thus furnishing a scale with intuitive interpretation. In this scale, D_{Ni} represents the decile value for need *i*, f_{ai} denotes the cumulative frequency up to the point of interest, f_i signifies the interval frequency of the score, and *N* represents the cases of the normative group:

$$D_{Ni} = \frac{f_{ai} + 0.50(f_i)}{N} * 10 \quad (1)$$

The procedure outlined in equation (1) yielded the standardization of the five needs to an interval ranging from 0 to 10. Higher scores denote greater need gratification, whereas lower scores indicate dissatisfaction. These standardized scores furnish a descriptive and comparative measure of the variables within the Mexican population.

Procedure

To address the problem statement, a statistical description, product-moment correlations, and a multiple linear regression model with stepwise forward method were employed to ascertain the hierarchy of the five basic needs in explaining life satisfaction (LS). The objective of the regression method was to elucidate the hierarchical sequence in which the predictor variables elucidate LS by maximizing the correlation between the predicted variable and the forecasted one. To achieve this, a decision rule was applied, assessing the adherence of a predictor to the model based on the R_{XY} value. Consequently, the most significant indicator for the relevance of needs on satisfaction lies in the change in ΔR^2 and R^2, delineating the most substantial changes in R^2 as a function of the introduction of predictors to the model (Darlington & Hayes, 2017). The five needs were introduced to the model as predictors, with LS serving as the dependent variable. The forward stepwise method underscores the predictor variables in order of importance for explaining satisfaction, with the first predictors to emerge deemed hierarchically more significant, while the subsequent ones are progressively less influential in explaining satisfaction.

Results

The study sought to ascertain whether the HBN predicts LS and questioned the hierarchical order of needs as popularized in the pyramid. The analyses revealed significant correlations between LS and the five basic needs. As depicted in Table 4, correlations between physiological needs and safety are minimal, with the highest correlation observed between physiological needs and self-actualization needs. Consequently, the impact of physiological needs on other needs appears relatively independent. Conversely, for safety needs, the correlation pattern shifts, with the weakest correlation observed with self-actualization needs and the strongest correlation noted with belongingness needs. Furthermore, as needs ascend in the hierarchy, the strength of the associations systematically increases, along with their descriptive statistics.

Table 4
Descriptives and correlations (Pearson) between basic needs and life satisfaction

Needs	Descriptives			Correlations				
	M (SD)	*Me*	[P_{25}, P_{75}]	*1*	*2*	*3*	*4*	*5*
1. Physiological	5.7 (2.1)	6	[4.1, 7.5]					
2. Safety	7.3 (1.6)	7.6	[6.3, 8.6]	.128				
3. Love and belonging	8.5 (1.4)	9	[8, 9.6]	.198	.411			
4. Esteem	8.6 (1.4)	9	[8, 10]	.189	.387	.508		
5. Self-actualization	8.6 (1.2)	8.8	[8.1, 9.6]	.252	.357	.470	.682	
Life satisfaction	7.9 (1.8)	8	[7, 9]	.264	.380	.536	.491	.428

Note. *M* = Mean, *SD* = Standard deviation, *Me* = Median, P_{25} = percentile 25, P_{75} = percentile 75.
Correlations are significant at value $p \leq .01$

Furthermore, significant associations were observed between needs and LS, with the strongest association observed for belongingness needs and the weakest for physiological needs (Table 4). It was found that lower levels of need gratification corresponded to lower levels of LS; thus, the degree of well-being aligns with the degree of gratification. Additionally, the widest disparity in LS scores was observed between low and high levels of belongingness needs, with a difference of 3.96 deciles, whereas the minimum difference was observed in physiological needs, with a gap of 1.37 deciles. However, only 1.5% of the sample reported low gratification in belongingness needs, while 22.5% reported low gratification in physiological needs. Moreover, LS exhibited significant differences based on the levels of gratification of basic needs (Table 5).

Table 5
Descriptives and one-factor Anova of life satisfaction as a function of level of need gratification

Needs	Level of gratification[a]	Life satisfaction			
		% Sample	*M (SD)*	*F*[b]	$\hat{\eta}^2$
Physiological	Low (≤3)	22.5	7.25 (2.08)	1136.18	.056
	Medium (4-7)	59.4	8.01 (1.81)		
	High (≥8)	18.1	8.62 (1.44)		
Safety	Low (≤3)	4.2	5.83 (2.62)	2350.93	.109
	Medium (4-7)	51.6	7.64 (1.85)		
	High (≥8)	44.2	8.51 (1.55)		
Love and belonging	Low (≤3)	1.5	4.22 (2.60)	5194.61	.212
	Medium (4-7)	21.7	6.62 (2.02)		
	High (≥8)	76.8	8.40 (1.51)		
Esteem	Low (≤3)	1.2	4.06 (2.49)	4210.89	.179
	Medium (4-7)	18.8	6.61 (2.06)		
	High (≥8)	80.0	8.32 (1.58)		
Self-actualization	Low (≤3)	0.7	4.37 (2.62)	2719.75	.124
	Medium (4-7)	21.4	6.85 (2.07)		
	High (≥8)	77.9	8.28 (1.64)		

Note. Resources: BIARE Ampliado 2014 y MCS-ENIGH 2014, INEGI.
[a]The leve lof need gratification is presented in three levels according to equation (1) as a measure of positioning.
[b]Coefficients are significant at value $p < .001$.
F = Fisher statistic in one-factor ANOVA; $\hat{\eta}^2$ = Partial Eta-squared (effect size).

The regression model integrated the five needs into the prediction of LS, revealing a hierarchy that diverged from Maslow's pyramid. While Maslow's theory posits the relative importance of the five needs to begin with physiological, safety, belonging, self-esteem, and self-actualization, the empirical model contradicted this proposition. The needs for love and belonging emerged as the most crucial predictors added to the model, explaining 28.7% of the variance between these needs and LS. Subsequently, esteem needs were incorporated in the second model, contributing an additional 6.5% to the explanation. Physiological needs were introduced in the third model, adding 1.8% to the explanation, followed by safety needs in the fourth model with 1.4%. Finally, self-actualization needs were included, contributing a low but significant level (0.01%). Collectively, the total model explained 38.5% of the common variance between the HBN and LS (Table 6).

Table 6
Multiple linear regression between HBN and life satisfaction

Needs	*B*	SE_B	β	*t*	*p*	95% *CI*	ΔR^2	$1\text{-}R^2$	*VIF*
Constant	-.353	.058		-6.040	.00	[-.467, -.238]			
Love and belonging	.414	.006	.323	65.879	.00	[.401, .426]	.287	.664	1.506
Esteem	.286	.007	.220	38.155	.00	[.271, .301]	.065	.481	2.080
Physiological	.112	.004	.129	31.221	.00	[.105, .119]	.018	.928	1.078
Safety	.142	.005	.129	28.485	.00	[.132, 152]	.014	.781	1.280
Self-actualization	.073	.009	.048	8.469	.00	[.056, .090]	.001	.499	2.005

Note: B = Non-standardized coefficients, SE_B = Standard error of B, β = Standardized coefficients, t = Student's test, p = probability value, ΔR^2 = Change in coefficient of determination, *VIF* = Variance inflation factor (collinearity). $1\text{-}R^2$ = Tolerance de R^2 = .384.

Discussion

Maslow's pyramid stands as the quintessential image of motivational theories, yet its premises have implied a sequential progression of needs (Yang, 2003). This hierarchical structure prioritizes needs aimed at fulfilling the quest for self-actualization as the primary objective in explanations of social and public policy inspired by need satisfaction (Davies, 1991). However, rather than a strict hierarchy, the present study underscores the concept of multiple needs, wherein prioritization is contingent upon the societal context and direction given to needs within each society. In contrast to studies demonstrating high associations among the five needs (Taormina & Gao, 2013), the findings of this study reveal distinct associative structures among needs, suggesting the sociocultural relevance of the samples.

Belongingness and esteem needs emerged as the most influential predictors of LS, a finding echoed in meta-analyses examining social support and self-concept, which collectively explain 37.29% of subjective well-being (Chang & Huang, 2021). In contrast, lower needs such as physiological and safety needs may have a limited impact on other needs, whereas gratification of higher needs such as belongingness, esteem, or self-actualization could exert a more substantial influence on other needs. As needs ascend in the hierarchy, the strength of association systematically increases, along

with their descriptive statistics. This observation suggests a gradual transition from the relatively independent effect of lower needs to a synergistic effect among higher needs (Grix & McKibbin, 2016; Tay & Diener, 2011). Although belongingness needs emerge as the most robust predictors of satisfaction, the collective influence of the five basic needs accounts for 38.5% of the variance in LS (Table 6).

In a healthy society characterized by minimal social and natural challenges, physiological needs are rarely completely unmet (Narvaez & Noble, 2018). As a result, they exhibit relatively independent effects and are not prioritized in the regression analysis compared to other needs that exert greater influence on LS. Given their lower frequency of gratification among the population (18.1%), physiological needs remain important; however, attaining high levels of gratification for these needs is unlikely in societies like Mexico.

The HBN underwent modifications compared to the theoretical postulates outlined by Maslow (1946). Love, belonging, and esteem needs emerged as the most influential predictors of satisfaction, aligning with studies emphasizing the significance of relational and psychological needs for well-being (Rojas & Guardiola, 2016).

Love and belonging needs entail both giving and receiving affection, underscoring interpersonal relationships within family dynamics. Contemporary research delves into these needs through the lenses of social cohesion, support, identity formation, relational goods, and various sociocultural perspectives on human relationships (Allen et al., 2021; Baumeister & Leary, 1995; Díaz-Loving, 2019; Oishi, 2010; Rojas, 2020).

Contrary to Maslow's assertion that deficiency-motivated individuals are more dependent on others, belongingness emerges as a fundamental human motivation (Baumeister & Leary, 1995), fostering well-being and embodying core values of self-transcendence in collectivist cultures (Tamir et al., 2017). These findings challenge the HBN and cast doubt on the weak empirical support for normative assumptions (Noltmeyer et al., 2020; Wahba & Bridwell, 1976), suggesting that belongingness needs may be more significant and less deficient than previously believed.

The observed discrepancies between the pyramid premise and Maslow's proposal are evident in the data, with esteem needs exhibiting the highest gratification (80%), followed by self-actualization (77.9%), love and belonging (76.8%), safely (44.2%), and physiological needs (18.1%). This reshapes the sequence of the HBN and calls into question the verification of its hypotheses (Rojas & Guardiola, 2016). The present research advances a proposal for measuring and systematizing Maslow's HBN, aiming to falsify the theory from the subjective well-being perspective within the context of Latin America.

Complementary information

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References

Allen, K.A., Gray, D.L., Baumeister, R., & Leary, M. (2021). The need to belong: a deep dive into the origins, implications, and future of a foundational construct. *Educational psychology review*. https://doi.org/10.1007/s10648-021-09633-6

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Biswas-Diener, R. & Kashdan, T.B. (2021). Three lessons from Ed Diener. *International journal of wellbeing, 11*(2), 73-79. https://doi.org/10.5502/ijw.v11i2.1705

Bridgman, T., Cummings S. & Ballard, J. (2019). Who built Maslow's pyramid? A history of the creation of management studies' most famous symbol and its implications for management education. *Academy of Management Learning & Education, 18*(1), 81-98. https://doi.org/10.5465/amle.2017.0351

Buettner, D., Nelson, T., & Veenhoven, R. (2020). Ways to Greater Happiness: A Delphi Study. *Journal of Happiness Studies*, *21*(8), 2789-2806. https://doi.org/10.1007/s10902-019-00199-3

Chang A.C. & Huang, K.C. (2021). A meta-analysis on the effect of social support and self-concept on subjective well-being. *Journal of business and economic policy, 8*(3), 26-32. https://doi.org/10.30845/jbep.v8n3p3

Compton, W.C. (2018). Self-Actualization Myths: What Did Maslow Really Say? *Journal of Humanistic Psychology*. https://doi.org/10.1177/0022167818761929

Darlington, R.B. & Hayes, A.F. (2017). *Regression analysis and linear models. Concepts, applications and implementation.* The Guilford Press.

Davies, J.C. (1991). Maslow and theory of political development: getting to fundamentals. *Political psychology, 12*(3), 389-420. https://doi.org/10.2307/3791750

Davis, K. (1957). *Human relations in business*. McGraw Hill.

Deci E.L. & Ryan, R.M. (2012). Motivation, personality, and development within embedded social context: An overview of self-determination theory. En R.M. Ryan (ed.), *The Oxford handbook of human motivation* (pp. 85-107). Oxford University Press.

Di Domenico, S.I. (2020). Growth Needs. En V. Zeigler-Hill & T.K. Shackelford (Eds.). *Encyclopedia of personality and individual differences* (pp. 1852-1855). Springer.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95* (3): 542-575. https://doi.org/10.1037/0033-2909.95.3.542

Diener, E., Emmons, R.A., Larsen, R.J. y Griffin, S. (1985). The satisfaction with life scale. *Journal of personality Assessment*, 49 (1): pp. 71-75. https://doi.org/10.1207/s15327752jpa4901_13

Diener, E., Pressman, S.D., Hunter, J. & Delgadillo-Chase, D. (2017). If, why, and when subjective well-being influences health, and future needed research. *Applied psychology: health and well-being, 9* (2): pp. 133-167. https://doi.org/10.1111/aphw.12090

Diener, E., Sapyta, J. & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological inquiry, 9*(1), 33-37. http://dx.doi.org/10.1207/s15327965pli0901_3

Díaz-Loving, R. (2019). *Ethnopsychology. Pieces from the Mexican Research gallery.* Springer. https://doi.org/10.1007/978-3-030-26604-2

Feigenbaum, K. D., & Smith, R. A. (2020). Historical narratives: Abraham Maslow and Blackfoot interpretations. *The Humanistic Psychologist, 48*(3), 232–243. https://doi.org/10.1037/hum0000145

Greene, L., & Burke, G. (2007). Beyond self-actualization. *Journal of health and human services administration*, *30*(2), 116–128.

Grix, M. & McKibbin, P. (2018). Needs and well-being. En G. Fletcher (ed.), *The roudledge handbook of philosophy of well-being* (pp. 292-306). Routledge.

Hagerty, M.R. (1999). Testing Maslow's hierarchy of needs: National quality-of-life across time. *Social Indicators Research, 46*(3), 249-271. https://doi.org/10.1023/A:1006921107298

Instituto Nacional de Estadística y Geografía [INEGI] (2014). Módulo de Bienestar Autorreportado (Bienestar subjetivo - BIARE Ampliado) [Self-Reported Well-being Module (Subjective Well-Being – BIARE Extended)] [Data set]. Instituto Nacional de Estadística y Geografía. https://www.inegi.org.mx/investigacion/bienestar/ampliado/

Kraut, R. (2018). Aristotle on well-being. En G. Fletcher (ed.), *The roudledge handbook of philosophy of well-being* (pp. 20-28). Routledge.

Krys, K., Capaldi, C. A., Lun, V. M.C., Vauclair, C.M., Bond, M.H., Domínguez-Espinosa, A., & Uchida, Y. (2020). Psychologizing indexes of societal progress: Accounting for cultural diversity in preferred developmental pathways. *Culture & Psychology*, *26*(3), 303–319. https://doi.org/10.1177/1354067X19868146

Lee, D.R. (2011). Happiness, adaptation, and decreasing marginal utility of income. *The journal of private enterprise, 27*(1), 63-73. http://journal.apee.org/index.php?title=Fall2011_6

Li, X. & Hsee, C. (2021). The psychology of marginal utility. *Journal of consumer research, 48*(1). 169-188. https://doi.org/10.1093/jcr/ucaa064

MacDonald G. & Park, Y. (2021). Association of attachment avoidance and anxiety with life satisfaction, satisfaction with singlehood, and desire for a romantic partner. *Personal relationships,* 1-14. https://doi.org/10.1111/pere.12416

Maslow, A.H. (1943). A theory of human motivation. *Psychological review, 50*(4), 370-396. https://doi.org/10.1037/h0054346

Maslow, A.H. (1954/1970). *Motivation and Personality*. Harper & Row, Publishers, Inc.

Maslow, A.H. (1968/2014). *El hombre autorrealizado. Hacia una psicología del Ser* [The Self-actualized man. Towards a Psychology of Being]. Kairós.

McDermid C.D. (1960). How money motives men. *Business Horizons, 3*(4), 93-100. https://doi.org/10.1016/S0007-6813(60)80034-1

Narvaez, D. & Noble, R. (2018). The notion of basic needs. En D. Narvaez (ed.), *Basic needs, wellbeing and morality. Fulfilling human potential* (pp. 1-15). Palgrave Pivot, Springer Nature.

Navy S.L. (2020) Theory of Human Motivation-Abraham Maslow. En B. Akpan, & T.J. Kennedy (Eds.), *Science Education in Theory and Practice* (pp. 17-28). Springer. https://doi.org/10.1007/978-3-030-43620-9_2

Noltemeyer, A. Bush, K. Patton, J. & Bergen, D. (2012). The relationship among deficiency needs and growth needs: an empirical investigation of Maslow's theory. *Children and youth service review, 34*, 1862-1867. https://doi.org/10.1016/j.childyouth.2012.05.021

Noltemeyer, A., James, A.G., Bush, K., Bergen, D., Barrios, V. & Patton, J. (2020). The relationship between deficiency needs and growth needs: the continuing investigation of Maslow's theory. *Child & Youth Services, 42*(1), 1-19. https://doi.org/10.1080/0145935X.2020.1818558

Oishi, S. (2010). Culture and well-being: conceptual and methodological issues. En E. Diener, J.F. Helliwel & D. Kahneman (Eds.), *International differences in well-being* (pp. 34-69). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199732739.003.0003

Pressman, S.D., Jenkins, B.N. & Moskowitz, J. (2019). Positive affect and health: What do we know and where next should we go? *Annual review of Psychology, 70*, 627-650. https://doi.org/10.1146/annurev-psych-010418-102955

Rojas, M. (2020). *Well-being in Latin America. Policies and drivers*. Springer. https://doi.org/10.1007/978-3-030-33498-7

Rojas, M. & Elizondo-Lara, M. (2016). The role of relational goods in the relationship between illness and satisfaction in Latin America. En M. Rojas (Ed.), *Handbook of happiness research in Latin America* (pp. 179-189). International Handbooks of Quality-of-life. Springer. https://doi.org/10.1007/978-94-017-7203-7_11

Rojas, M. & Guardiola, J. (2016). A hierarchy of unsatisfied needs: A subjective well-being study. En F. Maggino (ed.), *A life devoted to quality of life* (pp. 105-122). Springer International Publishing. https://doi.org/10.1007/978-3-319-20568-7_7

Ryan, R.M. & Deci, L. (2017). *Self-Determination theory*. The Guilford Press.

Ryff, C. (2018). Well-being with soul: science in pursuit of human potential. *Perspectives on psychological science, 13*(2), 242-248. https://doi.org/10.1177/1745691617699836

Sánchez-Aragón, R. & Díaz-Loving, R. (2016). From the individual to the romantic relationship: In search of happiness. En M. Rojas (Ed.), *Handbook of happiness research in Latin America* (pp. 163-177). International Handbooks of Quality-of-life. Springer. https://doi.org/10.1007/978-94-017-7203-7_10

Tamir, M., Schwatrz, S.H., Oishi, S. & Kim, M.Y. (2017). The secret of happiness: Feeling good or feeling right? *Journal of experimental psychology, 146* (10), 1448-1459. https://doi.org/10.1037/xge0000303

Tay, L. & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology, 101*(5), 354-365. https://doi.org/10.1037/a0023779

Wahba M.A. & Bridwell, L.G. (1976). Maslow reconsidered: A review of research of the need hierarchy theory. *Organizational behavior and human performance, 15*(2), 212-240. https://doi.org/10.1016/0030-5073(76)90038-6

Watson, D., Clark L.A. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scale. *Journal of Personality and Psychology*. 54 (6), 1063-1070.

Winninger S.R. & Norman, A.D. (2010). Assessing coverage of Maslow's theory in educational psychology textbooks: a content analysis. *Teaching educational psychology, 6*(1), 33-48.

Yang K.S. (2003). Beyond Maslow's culture-bound linear theory: a preliminary statement of the double-Y model of basic human needs. *Nebraska Symposium on Motivation. Nebraska Symposium on Motivation*, *49*, 175–255. https://pubmed.ncbi.nlm.nih.gov/14569674/