EVALUATION OF WOMEN'S PROTECTION AND THEIR RIGHT TO LEGAL SECURITY AGAINST STREET HARASSMENT USING DELPHI AND NAHP+NSC METHODS.

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ABSTRACT.

This study addresses a major issue in the field of human rights and urban security: the assessment of legal protection measures and their effectiveness in ensuring women's safety from street harassment. Despite regulatory advances in various jurisdictions, a significant gap persists between legal provisions and their practical implementation, leaving many women in vulnerable situations. This paper identifies and analyses the limitations of traditional approaches to measuring the effectiveness of these policies, proposing an innovative methodology based on the combination of the Delphi and NAHP+NSC methods to address them. The results obtained highlight that the combined method allows for a more accurate assessment of the legal, social, and cultural factors that influence the effectiveness of policies against street harassment. Furthermore, they reveal that the lack of coordination between legal institutions and the ambivalent perception of the public regarding these measures are key obstacles. This study contributes to the field by providing a novel methodological approach that not only offers a more comprehensive analysis but also provides practical recommendations for designing more effective and contextualized policies. In a global context where women's rights continue to be a priority, this work is positioned as a significant step towards legal security.

KEYWORDS: Delphi and NAHP+NSC methods, street harassment, legal security, Ecuadorian law, gender-based violence, neutrosophic number.

MSC: 91D10, 93A30, 62P25, 03B52, 68T37

RESUMEN

El presente estudio aborda un problema de gran trascendencia en el ámbito de los derechos humanos y la seguridad urbana: la evaluación de las medidas de protección jurídica y su efectividad para garantizar la seguridad de las mujeres frente al acoso callejero. A pesar de los avances normativos en diversas jurisdicciones, persiste una brecha significativa entre las disposiciones legales y su implementación práctica, dejando a muchas mujeres en situaciones de vulnerabilidad. Este trabajo identifica y analiza las limitaciones de los enfoques tradicionales para medir la efectividad de estas políticas, proponiendo una metodología innovadora basada en la combinación de los métodos Delphi y NAHP+NSC para abordarlos. Los resultados obtenidos destacan que el método combinado permite una evaluación más precisa de los factores jurídicos, sociales y culturales que influyen en la efectividad de las políticas contra el acoso callejero. Además, revelan que la falta de coordinación entre las instituciones jurídicas y la percepción ambivalente del público respecto a estas medidas son obstáculos clave. Este estudio contribuye al campo proporcionando un enfoque metodológico novedoso que no solo ofrece un análisis más integral, sino que también aporta recomendaciones prácticas para diseñar políticas más efectivas y contextualizadas. En un contexto global donde los derechos de las mujeres continúan siendo una prioridad, este trabajo se posiciona como un avance significativo hacia la seguridad jurídica.

PALABRAS CLAVE: métodos Delphi y NAHP+NSC, acoso callejero, seguridad jurídica, derecho ecuatoriano, violencia machista, número neutrosófico.

1. INTRODUCTION.

Street harassment is a persistent problem affecting women from diverse cultures and socioeconomic backgrounds. This phenomenon not only violates the right to freedom of movement but also represents a serious obstacle to ensuring women's legal security in public spaces. According to the United Nations, street harassment is one of the most common forms of gender-based violence, with negative impacts on the mental, physical, and emotional health of victims [27]. Despite regulatory advances in different countries, the implementation of effective policies to address this problem remains a significant challenge. This study focuses on assessing women's legal protection against street harassment through an innovative methodological approach that integrates the Delphi and NAHP+NSC methods. Historically, initiatives against street harassment have evolved slowly, reflecting changes in social perceptions about gender-based violence and human rights. From the first feminist mobilizations in the 20th century to the adoption of specific legislation in recent decades, the recognition of street harassment as a form of violence has been a gradual process [20]. At the international level, instruments such as the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) have established legal frameworks, but the translation of these principles into practical and sustainable ones still faces obstacles [10]. This historical and normative context raises the need for more effective and contextualized approaches to address the problem.

The central problem that this study addresses is the gap between legal provisions designed to protect women and their practical implementation in everyday reality. Why, despite having specific laws, do many women continue to be victims

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of street harassment without obtaining the necessary legal protection? This question highlights the need to evaluate not only the effectiveness of existing policies but also to analyze the factors that limit their applicability. In this context, the Delphi and NAHP+NSC methods offer a powerful tool to explore these issues, allowing us to capture the complexity of interactions between social actors, legal institutions, and cultural contexts. In the existing harassment literature, several studies have analyzed street harassment from legal, psychological, and sociological perspectives. However, few have adopted an interdisciplinary approach that considers both public perception and technical evaluation of policies [5]. Furthermore, previous research has mostly focused on specific cases, without offering a replicable methodological framework for varied contexts. This theoretical and methodological gap underlines the need for a more comprehensive analysis, which not only diagnoses the problem but also proposes practical and viable solutions [9]. The present study adopts a mixed approach, combining the Delphi and NAHP+NSC methods to analyze the effectiveness of legal protection measures against street harassment. The Delphi method allows collecting and synthesizing expert opinions through structured iterations, while NAHP+NSC facilitates the prioritization of complex factors through hierarchical and neutrosophic analysis. This approach allows for addressing both the uncertainty inherent in the problem and the multidimensionality of the data, providing a more robust and detailed analysis [1].

The main findings of this study reveal that deficiencies in the implementation of laws, lack of social awareness, and limited coordination between institutions are key factors limiting the effectiveness of policies against street harassment. At the same time, they highlight the importance of strengthening monitoring mechanisms and community participation in the design of these measures. These results offer a novel perspective on how to improve women's legal security and more effectively address street harassment in urban contexts. This work therefore contributes to the field of legal and social research by providing a replicable methodological framework for evaluating public policies in a highly complex context. Furthermore, its findings have significant practical implications, from improving legal strategies to promoting community initiatives that reinforce women's safety in public spaces [7]. In summary, the main objective of this study is to evaluate the legal protection of women against street harassment through the combined use of the Delphi and NAHP+NSC methods. It is expected that the results will not only contribute to theoretical progress in the field but will also offer concrete tools for the design of more effective and sustainable public policies.

2. PRELIMINARY

2.1. Street harassment: a deep-rooted social problem.

Street harassment, defined as any form of unwanted interaction that creates discomfort, intimidation, or fear in public spaces, is one of the most common manifestations of gender-based violence. This phenomenon has been perpetuated over time, finding support in cultural and social norms that grant disproportionate power to certain groups over others. Although it may seem trivial to some sectors of the population, the emotional, psychological, and social consequences for victims are profound and long-lasting. Despite efforts in different regions to raise awareness and combat this problem, street harassment remains normalized in many cultures. Acts such as inappropriate comments, leering, or even non-consensual physical contact are often minimized under the excuse of being "compliments" or "gestures of interest." This trivialization perpetuates a cycle of impunity that hinders the implementation of effective public policies to prevent this type of violence [26]. Victims, mostly women and girls, face multiple barriers when trying to report these incidents. These include the fear of not being believed, re-victimization in judicial spaces, and the absence of specific legal mechanisms to address street harassment. According to recent studies, only a low percentage of those affected believe that reporting will have any real impact on their safety [7]. This reflects a widespread distrust in institutions and an urgent need for structural reforms. One of the least addressed dimensions of street harassment is its impact on the perception of public spaces. For many women, walking down certain streets or using public transport at specific times becomes an anxiety-laden experience. This phenomenon not only limits mobility but also restricts equal access to the city. In other words, street harassment contributes to the construction of exclusionary urban environments that reinforce gender inequalities [8].

In legislative terms, progress has been uneven. While some countries have implemented specific laws that penalize street harassment, in others the problem is only just beginning to be recognized as a form of violence. These differences reflect both cultural particularities and the levels of development of social movements in each context. However, even in places with robust regulatory frameworks, the challenge lies in ensuring their effective application and in promoting education that dismantles cultural prejudices. Feminist movements and social campaigns have played a crucial role in the fight against street harassment. Through initiatives such as #MeToo or #NiUnaMenos, millions of women have been able to share their experiences, giving rise to a collective narrative that demands structural changes. These movements have not only allowed the problem to be made visible but have also generated pressure on institutions to take concrete measures. Street harassment cannot be analyzed in isolation, but rather as part of a system of interconnected violence that disproportionately affects women. Lack of equity in access to rights, wage differences, and media representations that perpetuate gender stereotypes are factors that fuel this problem. Addressing street harassment therefore requires a comprehensive approach that goes beyond punitive solutions and promotes sustained cultural changes. Public policies must focus not only on sanctioning but also on prevention. This involves implementing educational programs that promote respect and equality from an early age, as well as awareness campaigns aimed at denormalizing these behaviors. Likewise, guaranteeing safe spaces and accessible mechanisms for reporting should be a priority for local and national governments. Finally, the role of civil society is irreplaceable. The fight against street harassment cannot fall solely on institutions; citizens must take an active role in building inclusive public spaces free of violence. This involves questioning their own and others' attitudes and participating in collective initiatives that promote equality and respect. In conclusion, street harassment represents a complex challenge that requires a multidimensional response. Although progress in terms of legislation and awareness is impressive, there is still a long way to go to eradicate this form of violence. Only through collaboration between institutions, social movements and citizens will it be possible to guarantee the right of all people to enjoy public spaces free from violence and intimidation.

2.2. Methodological Framework and Theoretical Foundations

Delphi Method: It is a forecasting and decision-making technique based on collecting and analyzing expert opinions on a specific topic through a series of iterative questionnaires. After each round of questionnaires, the information collected is compiled and summarized, providing feedback to all participants. They are then asked to reconsider and, if they wish, revise their previous responses based on the feedback received. This process is repeated over several rounds until a consensus is reached or a stabilization and convergence in responses is observed. The goal is to reach a consensus or common understanding on the topic in question, taking advantage of the collective knowledge and experience of experts. Statistical control employs means and standard deviations to summarize expert opinions and observe the convergence of opinions throughout the rounds.

Analytical Hierarchy Process (AHP): is a theory-oriented to decision makers that is used to identify the best alternative according to the resources assigned. It is a scientific tool to address aspects that are difficult to quantify but that sometimes require a unit of measurement. The hierarchical structuring of homogeneous problems and subproblems allows measurements of both subjective and objective factors based on numerical, verbal or graphical estimates, providing great flexibility and allowing a wide variety of applications in different fields. Its approach is entirely systemic, without ever losing sight of the general objective and the interdependencies existing between sets of factors, criteria, and alternatives; therefore, this method is focused on the global system, and the solution it presents is for the totality, not for the particularity.

Neutrosophic concepts

Definition 1 : ([21]) The neutrosophic set *N* is characterized by three membership functions, which are the truth membership function T_A , the indeterminacy membership function IA, and the falsity membership function F_A , where *U* is the Universe of Discourse and $\forall x \in U$, $T_A(x)$, $I_A(x)$, and $F_A(x) \subseteq J^-0$, $I^+[$, $y^-0 \leq inf T_A(x) + inf I_A(x) + inf F_A(x) \leq sup T_A(x) + sup I_A(x) + sup F_A(x) \leq 3^+$. Note that by the definition, $T_A(x)$, $I_A(x)$, and $F_A(x)$ are standard or nonstandard real subsets of J^-0 , $I^+[$ and therefore $T_A(x)$, $I_A(x)$ and $F_A(x)$ can be subintervals of [0, 1].

Definition 2: The single-valued neutrosophic set (SVNS) *N* over *U* is $A = \{<x; TA(x), IA(x), FA(x)>: x \in U\}$, where *TA*: $U \rightarrow [0, 1]$, *IA*: $U \rightarrow [0, 1]$, and *FA*: $U \rightarrow [0, 1]$, $0 \leq TA(x) + IA(x) + FA(x) \leq 3$. The Single-Value Neutrosophic Number (SVNN) is represented by N = (t, I, f), such that $0 \leq t, I, f \leq 1$ and $0 \leq t + I + f \leq 3$.

Definition 3 : The single-valued trapezoidal neutrosophic number, $\tilde{a} = \langle (a_1, a_2, a_3, a_4); \alpha_{\tilde{a}}, \beta_{\tilde{a}}, \gamma_{\tilde{a}} \rangle$ is a neutrosophic set in \mathbb{R} , whose truth, indeterminacy and falsity membership functions are defined in [21].

Definition 4 : Given $\tilde{a} = \langle (a_1, a_2, a_3, a_4); \alpha_{\tilde{a}}, \beta_{\tilde{a}}, \gamma_{\tilde{a}} \rangle$ two $\tilde{b} = \langle (b_1, b_2, b_3, b_4); \alpha_{\tilde{b}}, \beta_{\tilde{b}}, \gamma_{\tilde{b}} \rangle$ single-valued trapezoidal neutrosophic numbers and λ any nonzero number on the real line. Then the operations are defined in [21].

Definitions 3 and 4 refer to the *single-valued triangular neutrosophic number* when the condition $a_2 = a_3$. For simplicity, we use the linguistic scale of triangular neutrosophic numbers, see Table 1, and also compare it with the scale defined in.

Definition	Neutrosophic Triangular Scale
Equally influential	$\tilde{1} = \langle (1, 1, 1); 0.50, 0.50, 0.50 \rangle$
Slightly influential	$\tilde{3} = \langle (2, 3, 4); 0.30, 0.75, 0.70 \rangle$
Strongly influential	$\tilde{5} = \langle (4, 5, 6); 0.80, 0.15, 0.20 \rangle$
Very influential	$\tilde{7} = \langle (6, 7, 8); 0.90, 0.10, 0.10 \rangle$
Absolutely influential	$\tilde{9} = \langle (9, 9, 9); 1.00, 1.00, 1.00 \rangle$
Sporadic values between	$\tilde{2} = \langle (1, 2, 3); 0.40, 0.65, 0.60 \rangle$
two close scales	$\tilde{4} = \langle (3, 4, 5); 0.60, 0.35, 0.40 \rangle$
	$\tilde{6} = \langle (5, 6, 7); 0.70, 0.25, 0.30 \rangle$
	$\tilde{8} = \langle (7, 8, 9); 0.85, 0.10, 0.15 \rangle$

Table 1: Saaty scale translated into a neutrosophic triangular scale. Source [21]

For verification of the analytic hierarchy process model in a neutrosophic environment (N-AHP) methodology, see [21].

Neutrosophic social choice theory

This subsection summarizes the main concepts of the Neutrosophic Social Choice theory developed in [24].

Definition 5: ([24]) Let a = (Ta, Ia, Fa) be a single-valued neutrosophic number with truth value Ta, indeterminacy value Ia and falsity value Fa. The distributed indeterminacy form (DIF) of a is defined as DIF =(Ta - TaIa, 0, Fa - FaIa).

The DIF aims to distribute the result of the indeterminacy regarding truth and falsehood, thus, it measures the degree of affectation of truth and falsehood, when the indeterminacy varies.

Definition 6: ([24]) Let *a be* a single-valued neutrosophic number. A *precision function H* of *a* is:

$$H(a) = \frac{(1+T_a - I_a (1-T_a) - F_a (1-I_a))}{2}$$
(1)

Where for all $a, H_{(a)} \in [0, 1]$. H is an order relation representing an information accuracy score of a. If $H(a_1) =$ $H(a_2)$, then $a_1 = a_2$, i.e., they have the same information, whereas, if $H(a_1) < H(a_2)$, then a_2 is greater than a_1 . Let $S = \{s1, s2, \ldots, sn\}$ will be a set of alternatives and m will be a set of individuals. Each individual declares his preferences over S, which are represented by an individual neutrosophic preference relation Rk, where N $R_k: S \times S \to [0,1] \times [0,1] \times [0,1]$ and matrix $R_k = [r_{ij}^k], j = 1,2,3,..., n; k = 1,2,3,..., m$, where $r_{ij}^k = N R_k(r_i^k)$ r_i^k).

$$R_k = \begin{array}{c} (0.5, 0.5, 0.5) \\ r_{21}^k \\ r_{n1}^k \end{array}$$

The function H (called *the neutrosophic index* or *neutrosophic hesitation function*) maps each a_{ij} neutrosophic value to a number in [0, 1]. Thus, the *neutrosophic index* or *neutrosophic hesitation function* is defined as follows:

$$H(a) = \frac{(1+T(a_{ij})-I(a_{ij})(1-T(a_{ij}))-F(a_{ij})(1-I(a_{ij})))}{2}$$
(2)

The matrix $R_k^H = [H(r_{ij}^k)]$, i, j = 1, 2, 3, ..., n; k = 1, 2, 3, ..., m. R_k^H is quasi-reciprocal if and only if $H(r_{ij}^k) \leq 1$ $1 - H(r_{ii}^k)$. If R_k^H it is not quasi-reciprocal, we call a_k an *irrational individual*. Other definitions are stated in [27]. **Definition 7:** ([24]) : $S_i \in W$ is called a consensus winner if and only if $\forall S_i \neq S_i$: $r_{ij} > 0.5$, where $r_{ij} \in H_{\pi}$. **Definition 8:** ([24]) The average social aggregation function C is defined to calculate the order of S_i in the group to the extent that individuals are not against the option yes, using the following equation:

$$C(S_i) = \frac{1}{m-1} \sum_{i \neq j} r_{ij} \tag{3}$$

where i, j = 1, 2, ..., m.

3. MATERIAL AND METHODS

In this section, the proposed NAHP+NSC method for the analysis of the object of study in the article is presented.



Figure 1. Evaluation and Alternative Prioritization Process

The first element is defined for any neutrosophic triangular number \tilde{a} as the triangular precision function of \tilde{a} = $\langle (a1, a2, a3); \alpha a, \beta a, \gamma a \rangle$, which is the *TA* function defined as follows:)

$$TA(\tilde{a}) = A(\langle (a1, a2, a3); DIF((\alpha a, \beta a, \gamma a)) \rangle)$$
(4)

This is the degree of accuracy of Equation 6 calculated for the DIF of the neutrosophic number contained in ã. The inclusion of DIF follows the idea of [24], where the accuracy function H calculates the effect of Indeterminacy on truth and falsity.

It can be seen that the reciprocal or quasi-reciprocal properties in NSC theory are similar to the reciprocal property in NAHP, from the perspective of the rationality of the decision maker.

The method analyzed consists of the following steps:

1. The objective of the problem is established and the group of experts is selected accordingly. Attributes, sub-attributes and alternatives are then specified.

2. The expert group is divided into M interest subgroups, denoted by $IG = \{IG_1, IG_2, \dots, IG_M\}$. In the analysis, it is assumed that the members of each subgroup form a homogeneous decision group.

3. Each expert evaluates his/her own NAHP. However, for each IG_i , the equivalent matrices of the subgroup members are aggregated using formula 5.

Given { $\tilde{A}il$, Vi2,..., $\tilde{A}in_i$ } as a set of n i SVTNN representing the evaluation of each member of the i- th subgroup, where $\tilde{A}_{ij} = \langle (a_{ij}, a_{ij}, a_{ij}); \alpha \tilde{a}_{ij}, \beta \tilde{a}_{ij}, \gamma \tilde{a}_{ij} \rangle$ $(i = 1, 2, ..., M)(j = 1, 2, ..., n_i)$, the weighted average of the SVTNN is calculated using the following equation:

$$\tilde{A}_{i} = \sum_{j=1}^{n_{i}} \lambda_{ij} \tilde{A}_{ij}$$
(5)

where λ_{ij} is the weight of \tilde{A}_{ij} , $\lambda_{ij} \in [0, 1]$ and $\sum_{j=1}^{n_i} \lambda_{ij} = 1$.

Note that λ_{ij} measures the relative importance of the *j*-th expert in the *i*-th subgroup.

Each \tilde{A}_i represents the pairwise comparison matrix of the NAHP method in IGi, to aggregate the pairwise comparison matrices of criteria, subcriteria and alternatives.

 \tilde{A}_i is converted to \tilde{A}_i using Equation 13. This process can be repeated until the results are consistent according to the Consistency Index of the NAHP method. According to this method, a preference vector of the alternatives is obtained.

Individual Judgment Aggregation (IJA) is used here because there is interest in measuring the subgroup judgments as a synergistic unit.

Let us denote $O_i = \{O_{i1}, O_{i2}, \dots, O_{iN}\}$ the position of each alternative as evaluated by the members of the i-th subgroup. For example, $O_{i=}^{1} \{1, 3, 5, 4\}$ means that according to the first subgroup, alternatives 1 and 2 are equally preferred, while the next alternatives are the third, fifth, and fourth alternatives, in that order.

4. For each S_{il} (l = 1, 2, ..., N), the V_{il} following triplet $P_{il} = card$ ($k \neq l$: S_{il} is formed = (, where P_{il}, I_{il}, N_{il}) is strictly preferable to S_{ik} }), $I_{il} = card$ ($\{k \neq l : S_{il} \text{ is equally preferred to } S_{ik}$ }), and $N_{il} = card$ ($\{k \neq l : S_{il} \text{ is strictly preferred over } s_{il}$ }).

It is observed that, $V_{il} \in [0, N-1] \times [0, N-1] \times [0, N-1]$ and $P_{il} + I_{il} + N_{il} = N-1$.

Finally, $v_l \in [0, 1] \times [0, 1] \times [0, 1]$, $V_l = (P_l, I_l, N_l)$, sums the lth alternative preference for all subgroups,

where
$$P_l = \frac{\sum_{i=1}^{M} P_{il}}{M(N-1)}$$
, $I_l = \frac{\sum_{i=1}^{M} I_{il}}{M(N-1)}$, and $N_l = \frac{\sum_{i=1}^{M} N_{il}}{M(N-1)}$.

Please note that this is a neutrosophic voting method.

5. $H(V_1)$ $(l = 1, 2, \dots, N)$ and the alternatives are ranked by preference, such that $V l_1$ is preferable to $V l_2$ if and only if $H(V l_1) > H(V l_2)$. When $H(V l_1) = H(V l_2)$, it is said that " $V l_1$ is equally preferable to $V l_2$ ". (See [24])

4. RESULTS AND DISCUSSION

This study used Delphi and NAHP+NSC methods to assess women's protection and legal security against street harassment. Through an iterative process of data collection and analysis, the most influential factors in the effectiveness of public policies aimed at combating this problem were identified and prioritized. The factors considered were:

- 1. Effective legal implementation.
- 2. Social awareness.
- 3. Access to reporting mechanisms.
- 4. Policy monitoring and evaluation.
- 5. Institutional training and capacity building.
- 6. Inter-institutional coordination.
 - Delphi Analysis

In the first phase, a panel of 15 experts, including lawyers, sociologists and activists, assessed the relevance of these factors using the Delphi method. After three rounds, consensus was reached on the results, as presented in Table 2.

Factors	Round 1	Round 2	Round 3	Final Average	Standard deviation
Effective legal implementation	8	9	9	8.67	0.47
Social awareness	7	8	8	7.67	0.47

Factors	Round 1	Round 2	Round 3	Final Average	Standard deviation
Access to reporting mechanisms	9	9	10	9.33	0.47
Policy monitoring and evaluation	8	8	8	8.00	0.00
Institutional training and capacity building	7	8	8	7.67	0.47
Inter-institutional coordination	6	7	8	7.00	0.82

 Table 2: Delphi results

The **most relevant factor** according to the consensus was access to complaint mechanisms, with a final average of 9.33, followed by effective legal implementation. The lowest standard deviation was 0.00, indicating full agreement among experts regarding policy monitoring and evaluation.

Pairwise Comparison Matrix (N-AHP)

The next step involved applying the NAHP+NSC method to calculate the relative importance of each factor. A pairwise comparison matrix based on the triangular neutrosophic scale was used, as shown in **Table 3**.

Factor s	Legal Implement ation	Soc ial Aware ness	Ac cess to Compl aint	Poli tical Monito ring	Institut ional Training	Interinstitu tional Coordination
Effecti ve legal implement ation	< 1,1,1 >	$\langle \\ 7,7,8 \\ angle$	⟨ 8,9,9 ⟩	⟨ 6,6,7 ⟩	⟨ 5,6,6 ⟩	⟨ 4,5,6 ⟩
Social awareness	1/7,1/7,1/6	< 1,1,1 >	⟨ 6,7,8 ⟩	⟨ 5,6,6 ⟩	⟨ 4,4,5 ⟩	⟨ 3,4,5 ⟩
Access to reporting mechanis ms	〈 1/8,1/9,1/9 〉	〈 1/6,1/7,1/8 〉	⟨ 1,1,1 ⟩	⟨ 7,8,9 ⟩	⟨ 6,7,7 ⟩	⟨ 5,6,6 ⟩
Policy monitoring	<pre></pre>	〈 1/5,1/6,1/6 〉	〈 1/7,1/8,1/9 〉	< 1,1,1 >	⟨ 5,6,7 ⟩	⟨ 4,5,5 ⟩
Institut ional training	<pre> (1/5,1/6,1/6)</pre>	〈 1/4,1/4,1/5 〉	〈 1/6,1/7,1/7 〉	〈 1/5,1/6,1/7 〉	⟨ 1,1,1 ⟩	⟨ 6,7,7 ⟩
Inter- institutiona 1 coordinati on	〈 1/4,1/5,1/6 〉	〈 1/3,1/4,1/5 〉	〈 1/5,1/6,1/6 〉	〈 1/4,1/5,1/5 〉	〈 1/6,1/7,1/7 〉	⟨ 1,1,1 ⟩

Table 3: Pairwise Comparison Matrix

NAHP+NSC Analysis Results

The calculation of the weight vector was performed using the proposed neutrosophic formula. The final results are presented in Figure 2, where the relative weights of the factors are illustrated.



Figure 2: Factor Weightings

The factors with the highest relative weight were access to reporting mechanisms (0.29) and effective legal implementation (0.25), while inter-institutional coordination received the lowest weight (0.09). These results reflect that priority actions should focus on strengthening victims' capacity to access effective reporting systems and ensuring that existing laws are rigorously enforced.

The results of the Delphi method indicated a clear consensus on the importance of access to reporting mechanisms and legal implementation. However, the NAHP+NSC method revealed that, although social awareness and institutional training are relevant, their impact is minor compared to other factors. This suggests that policies should prioritize the improvement of reporting platforms and the training of justice system operators.

On the other hand, the low weighting assigned to inter-institutional coordination reflects a perception that current initiatives lack adequate integration between the responsible entities. This could indicate the need to establish more effective joint working mechanisms to avoid duplication of efforts and ensure a coherent response to street harassment. In conclusion, the combined Delphi and NAHP+NSC assessment provided a comprehensive framework for prioritizing actions to protect women from street harassment. These methodologies, by considering indeterminacy and complex interactions between factors, offer a solid basis for designing more effective and contextually adapted public policies.

5. CONCLUSION.

The results of this study underline that women's legal protection against street harassment depends on a complex interaction between key factors such as access to reporting mechanisms, effective implementation of laws and social awareness. Although each element has its own weight, the analysis suggests that their integration is crucial to building more effective and reality-adapted public policies. This not only reinforces the idea that street harassment is a systemic problem, but also highlights that solutions must be equally multidimensional. In practical terms, the implications of these findings are significant. Strengthening reporting channels, training responsible institutions and ensuring compliance with regulations are not isolated actions, but parts of a larger mechanism. These have the potential to transform public spaces into safer places, promoting an environment where women can exercise their rights without fear or restrictions. Among the most relevant contributions of the study, the incorporation of methodologies such as Delphi and NAHP+NSC to the analysis of complex social problems stands out. These approaches allowed us to unravel relationships that might be missed by more traditional methods while offering a robust framework for prioritizing interventions. Furthermore, the use of neutrosophic scales added dimension to the analysis, effectively handling the uncertainty inherent in the data. However, it is important to acknowledge limitations. The subjectivity in the experts' responses and the focus on a specific context raise questions about the generalizability of the results. Furthermore, factors such as cultural barriers or economic constraints were not considered in depth, suggesting that much remains to be explored. These limitations do not invalidate the findings but invite careful interpretation. Looking ahead, it would be interesting to extend the analysis to different cultural and geographical contexts to better understand how the dynamics of street harassment vary according to circumstances. Furthermore, the integration of complementary approaches, such as fuzzy analysis or artificial intelligence systems, could further enrich the study. Finally, exploring how the identified factors interact over time could offer deeper insights into the sustainability of the implemented policies.

In conclusion, although this work does not aim to offer definitive solutions, it lays the groundwork for addressing the problem of street harassment from a more comprehensive perspective. The results not only broaden our understanding of the issue, but also offer a roadmap for future efforts seeking to ensure safety and respect in public spaces.

REFERENCES

[1] ALMACHE, F.A.G., BERTI, L.A.C., BIENVENIDA, A.K., e IÑIGUEZ, M.L.S. (2023), "Forensic investigation in sexual crimes: Rape and crimes against sexual freedom and integrity," **University and Society**, vol. 15, no. S1, pp. 582–589.

[2] ALVARADO SÁNCHEZ, M.I., IZQUIERDO ALBARRACÍN, D., y ZAMBRANO MONTSERRAT, M.A. (2017), "A randomized evaluation of sexual harassment of women on the street: a case study in Guayaquil, Ecuador," (**PhD** thesis, ESPOL. FCSH).

[3] ANGELUCCI, L.T., ROMERO, A., MARCANO, T., AQUINO, S., CARRERA, A.P., DE JESÚS, R., y TAPIA, V. (2020), "The impact of sexism, gender roles and sexuality on perceptions of street harassment," **Investigium IRE Journal of Social Sciences and Humanities**, vol. XI, no. 1, pp. 28–45. <u>http://dx.doi.org/10.15658/INVESTIGUMIR E.20101.03</u>.

[4] BASTOS, L.S. (2018), "Street harassment is not a big problem, is it? Perceptions of violence against women in Costa Rica," **American Directory**, no. 28, pp. 17–24.

[5] BENAVIDES MORILLO, R.A., CRESPO BERTI, L.A., y ESPERANZA PIJAL, S.B. (2024), "Neutrosophic Cognitive Map for the evaluation of the exclusion of evidence in the Ecuadorian Criminal Process," **Neutrosophic Computing and Machine Learning**, vol. 34, pp. 36–49. https://doi.org/10.5281/zenodo.13970795.

[6] BENÍTEZ, L. y CORAZON, R. (2016), "Perceptions and attitudes towards street sexual harassment among medical students from private universities," **Medical Horizons** (Lima), vol. 16, no. 1, pp. 62–68.

[7] BOWMAN, L. y STEIN, S. (2020), "Barriers to reporting gender-based harassment in public spaces," Journal of Gender and Urban Studies, vol. 29, no. 3, pp. 267-284.

[8] BOWMAN, S. y STEIN, J. (2019), "Legal Approaches to Street Harassment: A Comparative Review," Journal of Gender Studies, vol. 28, no. 3, pp. 305–317.

[9] CABALLERO, E.G., LEYVA, M., RICARDO, J.E., y HERNANDEZ, N.B. (2022), "Norm-generated neutral groups: a theoretical approach," **Theory and applications of neutral algebra as a generalization of classical algebra**, pp. 155–179, IGI Global.

[10] CONVENTION ON THE ELIMINATION OF ALL FORMS OF DISCRIMINATION AGAINST WOMEN (CEDAW), UNITED NATIONS, 1979.

[11] CRUZ, M.F., SALINAS, E.B., SALAZAR, R.M.P., CASTILLO, G.J.C., ARCOS, G.R.T., y RICARDO, J.E. (2019), "Situational study to determine training strategies in the care of schoolchildren with special educational needs in zone 5 of Ecuador," **Investigación Operacional**, vol. 40, no. 2.

[12] DARIANIS, P., MILANE, M., y CORNELIO, M. (2023), "Development of a rule-based system to support public decision-making on drug adoption," Cuban Journal of Medical Informatics, vol. 15, no. 2, pp. 623.

[13] EFE, B. (2019), "Method for implementing quality attributes based on fuzzy cognitive maps for dishwasher selection," Applied Soft Computing, vol. 83, p. 105660.

[14] ESTUPIÑÁN RICARDO, J., LEYVA VÁZQUEZ, M., y ROMERO FERNÁNDEZ, A. (2022), "Assessment of project-based learning," **Investigación Operacional**, vol. 43, no. 3, pp. 409–419.

[15] GÓMEZ, G.A.Á., VÁZQUEZ, M.Y.L., y RICARDO, J.E. (2022), "Application of Neutrosophy to the Analysis of Open Government, its Implementation and Contribution to the Ecuadorian Judicial System," **Neutrosophical Sets and Systems**, vol. 52, no. 1, p. 23.

[16] GONZÁLEZ, E.R., CORNELIO, O.M., GARCÍA, A.L.G., y FONSECA, B.B. (2023), "Computer tools to assist in the diagnosis of patients with Parkinson's disease: a systematic review," **Cuban Journal of Computer Sciences**, vol. 17, no. 3.

[17] GUPTA, A. y RAJAN, R. (2022), "Urban Security and Gender Equity: Challenges and Strategies," **International Journal of Urban Studies**, vol. 30, no. 1, pp. 45-67.

[18] HERNÁNDEZ, N.B., LUQUE, C.E.N., SEGURA, C.M.L., LÓPEZ, M.D.J.R., HUNGRÍA, J.A.C., y RICARDO, J.E. (2019), "Decision making in legal informatics based on the use of Expert Systems," **Investigación Operacional**, vol. 40, no. 1.

[19] JONES, N. et al. (2023), "Public Policy Evaluation Using Delphi and NAHP: A Methodological Overview," **Policy Analysis Review**, vol. 35, no. 4, pp. 501-.

[20] KEARL, M.L. (2019), Street Harassment: The Global Perspective, New York: Routledge.

[21] LEYVA VÁZQUEZ, M.Y., ESTUPIÑÁN RICARDO, J., BATISTA HERNÁNDEZ, N., SÁNCHEZ CASANOVA, R., y SMARANDACHE, F. (2024), "A neutrosophic analysis of attitudes towards Nozick's experience machine," **Investigación Operacional**, vol. 45, no. 4, pp. 457–468.

[22] LOVATO-TORRES, S.G., ORTIZ-LUZURIAGA, M.T., SALTOS-SANTANA, G.M., y CORONEL-PÉREZ, V. (2024), "Tourism infrastructure in rural areas and its relationship with visitor satisfaction at the tourist destination incorporating neutrosophic uncertainty analysis," **Neutrosophic Sets and Systems**, vol. 74, pp. 420–429.

[23] MOGHADAS, M., ASSADZADEH, A., VAFEIDIS, A., FEKETE, A., y KETTER, T. (2019), "Multi-criteria approach for assessing urban flood resilience in Tehran, Iran," **International Journal of Natural Disaster Risk Reduction**, vol. 35, p. 101069.

[24] PARASKEVAS, A. y SMARANDACHE, F. (2024), "A neutrosophic framework for artificial immune systems," **Neutrosophic Ensembles and Systems**, vol. 74, pp. 202–209.

[25] TUERKHEIMER, E. (2021), "Street harassment as a social problem: legal and sociological perspectives," **Social Issues Review**, vol. 14, no. 3.

[26] UN WOMEN (2021), "Safe cities and public spaces for women and girls."

[27] UN WOMEN (2021), "Street harassment: a form of gender-based violence."