

Contribution of police professional training in Reconciliation with the population and the success of the community policing concept

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Abstract:

In a perspective to meet the guidelines of the General Directorate of National Security (DGNS) to establish the general order and fight against crime, the police institution in Morocco continues to introduce a series of strategies aimed at improving the relationship police - citizen in the ultimate reason to restore the trust between these two actors. This paper presents an assessment of the impact of the police training axes on the success of the concept of community policing.

In an attempt to assess the impact of these determinants of police training on the success of the concept of community policing, also known as proximity, this research article mobilized Generalized Linear Models (GLMs), specifically binary logistic regression. However, the prediction of the success of this concept was supported in this paper by a police training module such as community policing. This research ultimately showed a highly significant positive correlation between the background of this police training module and the success of the community policing approach.

This study was carried out in two successive phases. The first was qualitative on the selection of determinants of continuing police training, specifically the background to the formation of "Closer to the Public " A broad review of the literature, with a significant impact on the success of the community policing concept. The second phase is quantitative, explaining the prediction of the success of this concept through the logit model.

Keywords: police continuing education, community policing, police professional training, generalized linear models, binary logistic regression.

JEL Classification: M50, M53

Paper type: Empirical Research

1. Introduction

The community policing is defined as «a process of decentralization of responsibility to enable the police hierarchy and local front-line officers to work with the populations in developing and implement police strategies. Its aim is to change the relationship between the police and the population and to lead to innovative and effective strategies to combat crime through a constant dialogue between the different actors involved "(United Nations 2015). Also, (David L.-W. 2016), emphasizes that " The community policing are not based on a specific mandate, but rather on the versatility of the skills and interventions of the officers to enable them to respond in a complete and appropriate manner to all the solicitations of which they are the object. As such, the local police is neither preventive nor dissuasive nor repressive, it is all at once."

However, the restoration of the citizen's proximity police requires that policy-makers put in place mechanisms to strengthen aid to citizens in decision-making on security in coordination and consultation with the police institution. The strategic direction of a police organization must therefore include concrete reconciliation tools. To do so, strategic planning must be designed to: ensure a reassuring and familiar police presence; Increase the link of police confidence in working with citizens; Developing the capacity of the police to take into account the security needs and expectations of the population; Assess the level of citizen satisfaction with respect to insured police services; Appreciating the sense of security or insecurity; informing citizens about the services provided by police officers, their results and commitments to ensure security.

The tools and methods of reconciliation are many and varied, including better reception by police officers at police stations, including minors and women victims; Accessibility to certain on-line services through the strengthening of electronic administration, increased police presence in the public highway through foot and bicycle patrols; A launch of open houses organized by the police institution aimed at strengthening the link between the police and the citizens; Better internal and external communication. In this article, we will try to analyze the impact of the axis of police training «Closer to the public «On the success of the community policing concept. Our central question of research can therefore be formulated as follows: What is the impact of police training «Closer to the public «On the success of the community policing concept?" To respond to this problem, we will examine post-positivism epistemological posture, using the hypothetico-deductive reasoning. However, we adopt a quantitative study by mobilizing the generalized linear models, specifically the binary logistic regression.

2. Theoretical framework

(Terpstra J. 2009), identifies that " *The first category of good practice is the approximation to the population by: improving the architectural, organizational and quality of service structures; Creation of new specialized structures or units to combat violence against minors and women; Creation of functions dedicated to relations with citizens and improvement of communication through the creation of central communication structure* ". Similarly, (Dominique M. 1999) also emphasized that "*The methods of reconciliation are numerous and varied, including the opening of satellite police offices in various electoral districts; Welcoming of police officers; Accessibility to certain online services; Establishment of public reception offices and police stations; Guided tour of the police station; Foot and bicycle patrols; Conferences on topics of interest such as the role of police in a democratic society; Information Kiosks; Held in sports events for the benefit of a local organization*".

For this, and in the context of projects financed by the European Union for the introduction of community policing , " *Their effectiveness requires the implementation of strong training measures, including the reception of the public, the management of victims and the public sector trades of police officers redeployed to the public security service. The aim of this training activity is to: guarantee reception and care for victims in conditions that are consistent with respect for human dignity and adequate confidentiality; Informing the public and directing complainants in accordance with the grievances, in accordance with the public reception charter; To meet the conditions for police to reinvest the public service and to be legitimate in the eyes of litigants; To ensure that police officers make contact with the population and ensure proximity security within their area of competence and act as a social regulator* ".

2.1.The determinants of public policy

• Reception of the public, care of victims and jobs on public roads

According to the European Union's, right program, equality and citizenship (2014-2020) for the introduction of community policing. The training program for public reception, the care of victims and the public sector, will focus on the following themes: concepts of law and criminal procedure; Preparation of police and patrol reports; Drafting of current hand statements; Public record keeping; Acquisition of the technical actions of urban intervention (questioning, palpation, handcuffing, security of an individual arrested, discovery of a suspicious object); Training in the conduct of foot patrols and litters; Procedure for the use of radios; Learning about road traffic management and road controls; Awareness of the reception and care of trafficked women and minors; Reminder of the rules of the code of ethics of the national police and notions of first aid ".

However, (T. Denham 2008), announces that " *In order to contribute to the evolution of police practices and institutional culture, training on institutional reforms (policies and procedures) or on the development of the capacity to deal with specific crimes (domestic violence, rape or sexual assault) must be provided at all levels of police schools. Gender must be integrated into all disciplines and the training must include in-depth modules on gender issues. Gender training disciplines: General awareness of gender perspectives and diversity; Institutional policies and codes of conduct on discrimination and sexual harassment; Respect for and promotion of human rights, including women's rights; Protocols and practices on: domestic violence, rape, sexual assault, spinning, trafficking in human beings, child abuse; Maintenance techniques with victims of gender-based violence.* ".

• Communication

According to (Joseph V. N. E. 2018), "*In several African countries, reforms have met with resistance from all actors involved in both the police and the community. The former do not see the usefulness of the rapprochement with the population and the latter still in the face of brutality, corruption and the bad attitudes of some police officers. An education that can be drawn from all these experiences is that there should be a coherent overall communication strategy supported by a detailed action plan by the target audience, as well as a sustainable structure. Effective coordination of this action plan and strategy (as in the case of Morocco.* ". According to the project entitled "Policing-population: issues, local practices and recommendations "Of the European Forum for Urban Security (2011), Training-Effective Communication, a Bridge to Citizens" Aims to improve the skills of emergency call center officers by providing them with tools to respond in the most effective way to citizens' demands, who often call when they are in a state of panic or very irritated. The aim of the project is precisely to reduce the tension between the police and the citizens during these telephone exchanges." This project insists on " *The development of a specific communication strategy to*

the public and the media: a communication effort is needed to create meeting spaces between the police and citizens, to explain the role of the police and to inform the public about the work and successes of the police. A public communication strategy worked specifically with the media also makes it possible to make the police better known. The relationship of the media with insecurity and that of the police with the media is fundamental to the image of the police to the citizens. In this sense, the image of the police in the media must take better on the daily reality and enhance the value of local police missions."

In France, the continuing education entitled «Professional communication », intended for the heads of communications services, is dedicated to the ENSP. This training focuses on 3 essential modules: Module " Media training and camera face " In order to familiarize the participant with the interview situation, television debates, press conference; Module " Elements on the fundamentals of the communication strategy for the national police ", which aims to address issues of media sociology, sociology of journalism, media coverage of police action; Module " National Police Report-Social Networks " To build on these networks to consider the action of the national police.

• Treatment of women and minor victims

Mark L. 2011, wrote «A training plan for effective responses to violence against women, used in conjunction with the Handbook on Effective Police Responses to Violence against Women, published by UNODC. The purpose of this training program is to help develop the knowledge and skills of local and national police to respond effectively and appropriately to violence against women, in particular in privacy. To do so, it proposes measures to prevent violence against women, ways to act and investigate acts of violence and information that must be able to respond to the needs of victims during and after an incident. This training plan is structured around the following modules: International Rules and Standards; Factors of violence against women; Preventive approaches; Responding to violence against women: the role of the police; Procedural law; Inter-institutional collaboration and support."

UNICEF has developed a training plan for the benefit of the police. Within the framework of the strategic directions of the UNICEF strategic plan (2018-2021) and sustainable development goals by 2030, and under article 40 of the International Convention on the Rights of the Child " CIDE " Who says " That any child suspected or convicted of committing an offence has the right to a treatment that promotes his or her sense of dignity and personal value, which strengthens respect for human rights and fundamental freedoms Of others, taking into account their age and the need to facilitate their reintegration into society ". This training plan focuses on 5 modules: Presentation of the legal framework and the child protection system; To understand and communicate with the child; Interact with respect to children in conflict with the law, victims and victims of sexual offences; Ensure adequate support for the child in contact with the justice system; Conduct investigations and investigations in accordance with the rights of the child. "

2.2.Fundamental research hypotheses

- **H1:** Police training in the reception of the public, taking care of victims and trades in the public sector positively reinforces the concept of community policing.
- **H2:** Police training in the field of the communication has a positive impact on the improvement of the concept of the proximity police.
- **H3 :** Police training in the field of the of treatment of women and minors victims exhibited a positive impact on the consolidation of the concept of community policing.

3. Research methodology

In an attempt to improve the concept of citizen police, our research project focused on analyzing and assessing the impact of police training on the improvement and success of this concept. However, we have discussed a wide range of literature on the various police formations offered in the ultimate objective of improving the concept of citizen police through the various police regimes around the world. This theorizing allowed us to draw the contour of the different explanatory variables of the success of this concept. After selecting the explanatory variables with a strong impact on the latter, we are developing an online questionnaire for citizens to collect their feedback on their feedback on behavior Police officers in different situations in everyday life.

The construction of the questionnaire used in this research is based on the literature of several works and works of authors. The survey covers two main areas of concern. The first relates to the information of the citizen and the second part includes questions on the determinants of police training, that is, the channels given to the police and their role in the improvement and success of the concept of citizen police. However, information about citizens is private and would not be disclosed. We carefully use sampling to control the representativeness of the sample (simple random sample). The latter consists of 1100 citizens, taking into account the size of the population being questioned. After deducting the original 1100 questionnaire, we get 1000 valid questionnaires. The first introductory part of the questionnaire is dedicated to the personal information of the respondent. The second part is reserved for answers on multiple-choice questions relating to the explanatory determinants of the dependent variable using a Likert scale.

At this point, this section will be devoted to the prediction of the act of the success of the concept of community police, by the method of binary logistic regression, and the presentation of the sigmoid functions of the variable response influenced by the different explanatory variables used. We consider a sample of N subjected to a set of independent variables, the reception of the public and the organization of work in the way of public (X_1), the treatment of women and minors who are victims (X_2), the internal and external Communication (X_3). Let Y be the variable qualitative dichotomous to predict (response variable) expressing; the act of the success of the concept of the police-citizen. Y is the value (1) if the concept of a police-citizen is successful and (0) if this concept has met with failure. Noting:

- **$Y = 1$: Act of success of the concept of the citizen police**
- **$Y = 0$: Act of failure of the concept of citizen police**

The selected explanatory variables are explained as follows:

- **X_1 : Public reception and the organisation of work in the public sector**
- **X_2 : Treatments for women and underage victims**
- **X_3 : Internal and external communication**

In this study, we tried to identify the variables to predict the act of success and to measure the impact of each one on the concept of citizen police. However, the predictor variables introduced in the model are qualitative. The statistical analysis of the data was done with the software (IBM SPSS Statistics version 24).

3.1. Binary Logistic Regression

We consider a population P subdivided in two groups of individuals G_1 and G_2 are identifiable by a range of explanatory variables quantitative or qualitative $X_1, X_2, \dots, X_p$, and is *There* a variable qualitative dichotomous to predict (explained variable), worth (1) if the individual belongs to the group G_1 , and (0) if it comes from the group G_2 . We wish in this context, explain the binary variable Y from the variables $X_1, X_2, \dots, X_p$.

• Transformation Logit

We have a sample of n independent observations of y_i , with $i = 1, 2, \dots, n$. y_i denotes a random variable dependent on the form of a vector column such that $y_i = (y_1, y_2, \dots, y_n)$ expressing the value of a variable qualitative said response result dichotomous, which means that the outcome variable y_i can take one of two values 0 or 1, referring to, respectively, the presence or absence of the characteristic of interest. We also consider a set of p explanatory variables identified by the matrix of the design of experiment $(X) = (X_1, X_2, \dots, X_p)$ with the vector-column of the independent variables, of size $(n \times p)$ and rank (p) , where (x_i) is the row vector of these explanatory variables associated with the observation (i) such that, $i = 1, 2, \dots, n$, and the column vector (β) of dimension p of the unknown parameters of the model, that is to say, the regression coefficients unknown associated with the vector-column of the matrix (X) . We assume that y_i (response variable) is a realization of a random variable y_i , which can take the value 1 in the case of "success" and 0 in the case of "failure" with probability (π) and $(1 - \pi)$, respectively. The distribution of the response variable y_i is called the distribution of Bernoulli with parameter (π) . In addition, we can note $y_i \sim B(1, \pi)$. Is the conditional probability that the outcome is absent expressed by $P(y_i = 0|X) = 1 - \pi$ and present, denoted $P(y_i = 1|X) = \pi$, where X is the matrix of explanatory variables with p vectors column. The modeling of the response variables that have only two possible outcomes, which are "the presence" and "absence" of the event being investigated, is usually done by logistic regression (Agresti, 1996). The patterns of termination are models based on statistical regression, of which the best known is the logistic model, which is part of the large class of generalized linear models introduced by John Nelder and Robert Wedderburn (1972). The Logit of the logistic regression model is given by the equation:

$$\text{Logit}(\pi) = \ln\left(\frac{\pi}{1 - \pi}\right) = \sum_{k=0}^p \beta_k x_{ik}, \text{ with } i = 1, \dots, n \quad (1)$$

By transforming the Logit, we obtain equation (1) and equation (2):

$$\left(\frac{\pi}{1 - \pi}\right) = \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \quad (2)$$

We evaluate equation (2) to obtain π and $1 - \pi$ as:

$$\pi = \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) - \pi \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \quad (3)$$

$$\pi + \pi \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) = \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \quad (4)$$

$$\pi \left(1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)\right) = \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \quad (5)$$

$$\pi = \left(\frac{\exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)}{1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)}\right) \quad (6)$$

$$\pi = \left(\frac{1}{1 + \exp\left(-\sum_{k=0}^p \beta_k x_{ik}\right)}\right) \quad (7)$$

In the same way, we obtain $(1 - \pi)$:

$$1 - \pi = 1 - \left(\frac{1}{1 + \exp\left(-\sum_{k=0}^p \beta_k x_{ik}\right)}\right)$$

$$1 - \pi = \left(\frac{1}{1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)}\right)$$

$$1 - \pi = \frac{\exp(-\sum_{k=0}^p \beta_k x_{ik})}{1 + \exp(-\sum_{k=0}^p \beta_k x_{ik})} \quad (8)$$

- **Estimation of the parameters β of the equations non-linear distribution of Bernoulli by using the maximum likelihood estimator (Mle)**

If y_i takes a strictly two values 0 or 1, the expression of f π given in equation (7) provides the conditional probability that y_i is equal to 1, given X , and will be notified as $P(y_i = 1|X)$. And the quantity $1-\pi$ gives the conditional probability that y_i is equal to 0, given X , and this will be expressed by $P(y_i = 0|X)$. Thus, for $y_i=1$, the contribution to the likelihood function is π , on the other hand when $y_i=0$, the contribution of this function is $1 - \pi$. This contribution to the likelihood function will be expressed in the following way:

$$\pi^{y_i} (1 - \pi)^{1-y_i}$$

At this stage, we will estimate the $P + 1$ unknown parameters β , using the maximum likelihood estimator (Mle) as follows:

$$L(y_1, y_2, \dots, y_n, \pi) = \prod_{i=1}^n \pi^{y_i} (1 - \pi)^{1-y_i}$$

The maximum likelihood is one of the most widely used estimation methods to determine the values of the unknown β parameters that maximize the probability of obtaining a set of observed data. In other words, the maximum likelihood function explains the probability of the observed data based on unknown regression parameters β . The British statistician Ronald Aylmer Fisher between (1912-1922) as he was assigned to John Aldrich's work developed this method. R. A. Fisher and the making of maximum likelihood (1912-1922) "(1997). The purpose of this method is to find estimates of the β variables of explanatory variables in order to maximize the probability of observation of the Y -response variable.

$$L(y_1, y_2, \dots, y_n, \pi) = \prod_{i=1}^n \pi^{y_i} (1 - \pi)^{1-y_i} = \prod_{i=1}^n \left(\frac{\pi}{1 - \pi} \right)^{y_i} (1 - \pi)$$

By substituting equation (2) for the first term and equation (8) for the second term, we obtain:

$$L(y_1, y_2, \dots, y_n, \beta_1, \beta_2, \dots, \beta_p) = \prod_{i=1}^n \left(\exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \right)^{y_i} \left(1 - \frac{\exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)}{1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)} \right)$$

Then,

$$L(y_1, y_2, \dots, y_n, \beta_1, \beta_2, \dots, \beta_p) = \prod_{i=1}^n \left(\exp\left(y_i \sum_{k=0}^p \beta_k x_{ik}\right) \right) \left(1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \right)^{-1}$$

For reasons of simplification, we include the natural logarithm in the equation above. Since the logarithm is a monotonic, while the maximum of the likelihood function will also be a maximum of the likelihood function logarithmic function and vice versa. Thus, in considering the natural logarithm of this equation, we obtain the likelihood function of the logarithmic ℓ expressed as :

$$\ln(L(y_1, y_2, \dots, y_n, \beta_1, \beta_2, \dots, \beta_p)) = \ln\left(\prod_{i=1}^n \left(\exp\left(y_i \sum_{k=0}^p \beta_k x_{ik}\right) \right) \left(1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \right)^{-1} \right)$$

$$\ell(y_1, y_2, \dots, y_n, \beta_1, \beta_2, \dots, \beta_p) = \sum_{i=1}^n y_i \left(\sum_{k=0}^p \beta_k x_{ik} \right) - \ln\left(1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \right)$$

In deriving the last equation of the natural logarithm of the likelihood function above, it is appropriate to write:

$$\frac{\partial \ell(\beta)}{\partial \beta_k} = \sum_{i=1}^n y_i x_{ik} - \frac{1}{1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right)} \times \frac{\partial}{\partial \beta_k} \left(1 + \exp\left(\sum_{k=0}^p \beta_k x_{ik}\right) \right) \quad (9)$$

$$\frac{\partial \ell(\beta)}{\partial \beta_k} = \sum_{i=1}^n y_i x_{ik} - \frac{1}{1 + \exp(\sum_{k=0}^p \beta_k x_{ik})} \times \exp(\sum_{k=0}^p \beta_k x_{ik}) \times \frac{\partial}{\partial \beta_k} \sum_{k=0}^p \beta_k x_{ik} \quad (10)$$

$$\frac{\partial \ell(\beta)}{\partial \beta_k} = \sum_{i=1}^n y_i x_{ik} - \frac{x_{ik}}{1 + \exp(\sum_{k=0}^p \beta_k x_{ik})} \times \exp(\sum_{k=0}^p \beta_k x_{ik}) \quad (11)$$

Knowing that:

$$\frac{\partial}{\partial \beta_k} \sum_{k=0}^p \beta_k x_{ik} = x_{ik}$$

Then,

$$\frac{\partial \ell(\beta)}{\partial \beta_k} = \ell'_{\beta_k} = \sum_{i=1}^n y_i x_{ik} - \pi \cdot x_{ik} \quad (12)$$

Therefore, the estimation of the parameters $\hat{\beta} = (\hat{\beta}_0, \hat{\beta}_1, \dots, \hat{\beta}_p)$ that maximize the likelihood function logarithmic function can be determined by cancelling each of $P + 1$ equations of ℓ'_{β_k} (gradient of ℓ) as it is mentioned in the equation (12), and verify that its Hessian matrix (second derivative) is defined in the negative, this is to say that each element of the diagonal of this matrix is less than zero (Gene H. Golub and Charles F. Van Loan 1996). The Hessian matrix is to calculate the second derivative of equation (12). The general form of the matrix of second partial derivatives (matrix Hessian) can be written in the following way:

$$\frac{\partial^2 \ell(\beta)}{\partial \beta_k \partial \beta_{k'}} = \frac{\partial}{\partial \beta_{k'}} \sum_{i=1}^n y_i x_{ik} - \pi \cdot x_{ik} \quad (13)$$

$$\frac{\partial^2 \ell(\beta)}{\partial \beta_k \partial \beta_{k'}} = \frac{\partial}{\partial \beta_{k'}} (-\pi \cdot x_{ik}) \quad (14)$$

$$\frac{\partial^2 \ell(\beta)}{\partial \beta_k \partial \beta_{k'}} = -x_{ik} \frac{\partial}{\partial \beta_{k'}} \left(\frac{\exp(\sum_{k=0}^p \beta_k x_{ik})}{1 + \exp(\sum_{k=0}^p \beta_k x_{ik})} \right)$$

$$\ell''_{\beta_k \beta_{k'}} = -x_{ik} \pi(1 - \pi) x_{ik} \quad (15)$$

To solve the $(P + 1)$ equations (12) non-linear in β , we use the iterative method of optimization, Newton-Raphson, referring to the Hessian matrix. The estimation of the parameters β , it is through this process begins with a first step of choosing a starting point β^0 or β^{old} . The second step is to mention the way in which the method operates by asking: $\beta^{k+1} = \beta^k + A_k \times \nabla L(\beta^k)$, and finally stop when the condition $\beta^{k+1} \approx \beta^k$ gold $\nabla L \beta^{k+1} \approx \nabla L(\beta^k)$ is carried out. The result of this algorithm in the rating matrix gives:

$$\beta^{new} = \beta^{old} + [-\ell'(\beta^{old})]^{-1} \times \ell'(\beta^{old})$$

In asking $\hat{\beta} = (\hat{\beta}_0, \hat{\beta}_1, \dots, \hat{\beta}_p)^t$, we have:

$$V(\hat{\beta}) = \left(-\frac{\partial^2}{\partial \beta^2} \ln L(\beta, Y) \right)^{-1} \Big|_{\beta=\hat{\beta}} = (X^t W X)^{-1}$$

To simplify the above equation, we substitute the value of $\ell'(\beta)$ and $\ell''(\beta)$ with the following matrix:

$$\beta^{new} = \beta^{old} + (X^t W X)^{-1} \times X^t (Y - \mu) \quad (16)$$

$$\beta^{new} = (X^t W X)^{-1} \times X^t W (X \beta^{old} + W^{-1} (Y - \mu)) \quad \beta^{new} = (X^t W X)^{-1} X^t W Z \quad (17)$$

Where $Z = (X \beta^{old} + W^{-1} (Y - \mu))$

Hence, $Z = (X \beta^{old} + W^{-1} (Y - \mu))$ is a vector, and W is the vector of weight values of the diagonal of the incoming $\hat{\pi}_i(1 - \hat{\pi}_i)$. We can write:

$$\beta^{new} = \beta^{old} + (X^t W X)^{-1} \times X^t (Y - \mu) \quad (8)$$

With:

$$X = \begin{pmatrix} 1 & x_{1,1} & \cdots & x_{1,p} \\ 1 & x_{2,1} & -h \cdots & x_{2,p} \\ \vdots & \vdots & \vdots & \vdots \\ 1 & x_{n,1} & \cdots & x_{n,p} \end{pmatrix}$$

$$\hat{V} = \begin{pmatrix} \hat{\pi}_1(1 - \hat{\pi}_1) & 0 & \cdots & 0 \\ 0 & \hat{\pi}_2(1 - \hat{\pi}_2) & \cdots & 0 \\ \vdots & \vdots & \vdots & \vdots \\ 0 & 0 & \cdots & \hat{\pi}_n(1 - \hat{\pi}_n) \end{pmatrix}$$

And :

$$W = \text{Diag } \hat{\pi}_1(1 - \hat{\pi}_1), \cdots, \hat{\pi}_n(1 - \hat{\pi}_n),$$

4. Results and discussions

After the reliability test, we notice that the value of the coefficient $\hat{\alpha} = 0,922$, far exceeds the conventional threshold minimum of $\hat{\alpha} = 0,70$ (Nunnally, J. C. 1978), (Darren and Mallery 2008) revealing that we get, for this assortment consists of eleven items, the internal consistency was satisfactory. In fact, the coefficient of Cronbach's Alpha ($\hat{\alpha}$) is a built empirical result of a set of studies psychometric rather more subjective than scientific, characterized by the absence of a precise distribution to be able to decide on their acceptance or rebuttal (Evrard, Y., Pras, B., and Roux, E. (1997)). Moreover, several of the works of theorists such as Feldt, L. S., Woodruff, D. J., and Salih, F. A. (1987), Barnette, J. J. (2005), Van Zyl, M. J., Heinz, N., Nel, D. G. (2000), Iacobucci, D. and Duhachek, A. (2003), etc., have demonstrated the statistical processes on the distribution of this coefficient and its confidence interval.

Table 1: reliability Test

Cronbach's Alpha	Cronbach's Alpha based on standardized elements	Number of elements
0.922	0.921	3

Source: Author

The design of a confidence interval for the coefficient of Cronbach's Alpha ($\hat{\alpha}$), requires a rigorous level of statistical analyses, and provides additional background information for the research community. However, the work of Feldt, L. S., Woodruff, D. J., and Salih, F. A. (1987), and Iacobucci, D. and Duhachek, A. (2003), have led to the development of this type of interval, except that in our study we will focus on the approach Feldt, Woodruff, and Salih (1987). The writings of Feldt, et al., (1987), have shown that the distribution of values of ($\hat{\alpha}$) follows the law of "Fisher" (F), with the degrees of freedom $ddl_1 = (n-1)$, and $ddl_2 = (n-1)(k-1)$, where "n" refers to the size of the sample, and "k" is the number of variables used. However, for a sample size (n), a scale consisting of (k) variables, a coefficient of Cronbach's Alpha level ($\hat{\alpha}$), and a level of significance (γ), the bounds of the confidence interval according to Feldt, et al., (1987), can be performed in the following manner :

- $IC_{inf} = 1 - [(1 - \hat{\alpha}) \times F_{(1-\gamma)/2, ddl_1, ddl_2}]$
- $IC_{sup} = 1 - [(1 - \hat{\alpha}) \times F_{\gamma/2, ddl_1, ddl_2}]$

Where F represents the statistical value of Fisher for the percentiles $\gamma/2$ and $(1 - \gamma)/2$, respectively, $ddl_1 = (n - 1)$, et $ddl_2 = (n - 1)(k - 1)$.

Table 2: correlation Coefficient, intra-class

	Correlation , Intra-class	Interval of 95% Confidence		Test Fisher			
		Terminal Lower	Terminal Higher	Value	d.₁	d.₂	Sig.
Measures unique	0.397	0.370	0.425	5.611	109	1090	0.000
Measures medium-sized	0.822	0.901	0.938	5.611	999	5994	0.000

Source: Author

Through the we find that the Cronbach's Alpha coefficient observed $\hat{\alpha} = 0,922 \in IC^{5\%} = [0.901, 0.938]$, with a sample size, $n = 1000$, a number of independent variables $k = 11$ constituting the scale used, a $ddl_{-1} = (n - 1) = 109$ and a $ddl_2 = (n - 1) (k - 1) = 1090$. We notice also that the values obtained are highly significant with a $p = 0.000 < 0.05$.

Table 3 : Test of R^2 adjusted

2 LOG - LIKELIHOOD	R-TWO OF COX AND SNELL	R-TWO OF NAGELKERKE	R SQUARE OF THE SUM OF SQUARES	R-SQUARE (ADJUSTS) THE SUM OF THE SQUARES (R^2)
396.009	0.339	0.611	0.848	0.886

Source: Author

The summary of the model provides the values of (-2LL), R-two of Cox and Snell, and R-two of Nagelkerke for the full model. The value of (-2LL) of this model reached 396,009. This value was compared to that of the base model with the chi-square test in order to disclose highly significant decreases between the two ($p = 0,000 < 0, 05$). This degradation shows that the new model is significantly more suitable than the null model. Moreover, the values of R-two we indicate approximately how much of the variation in the outcome is explained by the model. The R-two of Cox and Snell of the full model is 0,339 and indicates that only 33.9 per cent of the variation in the probability that the concept of police-citizen be successful could be explained by all the explanatory variables. In addition, the R-two of Nagelkerke, which is an adjusted version of the R-two of Cox and Snell, and therefore closer to reality is 0,611. Therefore, we can say that the explanatory variables contribute to explain 61.1% of the variation in the probability that the concept of police-citizen be successful. In addition, a high value of the coefficient of R^2 adjusted or also shout out to coefficient of determination adjusted returns in a better fit of the model to the data used. In our case, the coefficient of determination R^2 adjusted = 0.886, that is to say that 88.6% of the dispersion is explained by the model of binary logistic regression.

Table 4: Chi-square Test

Explanatory Variables	Value Chi- square of Pearson	likelihood Ratio	linear Association by linear	ddl	Meaning asymptotic (bilateral)
X_1	61.341	59.291	47.001	10	0.000
X_2	58,209	55.376	50.501	10	0.000
X_3	47.129	40.673	38.242	10	0.000

Source: Author

We find according to the Chi-square test, that the link between the explanatory variables, namely, the reception of the public and the organization of work in the way of public (X_1), the treatment of women and minors who are victims (X_2), the internal and external Communication (X_3), and the variable response to "the act of the success of the concept of police-citizen" is

highly significant, with a significance asymptotic (bilateral) of $p = 0,000 < 0,05$. These results relate to reject the hypothesis of zero H_0 . In other words, the explanatory variables selected in this study have a significant linkage with the response variable, that is to say, a major influence on the measure of success of the concept of the police-citizen.

Table 5: Variables in the equation

	$\hat{\beta}$	E. S	Wald	ddl	Gis.	Exp ($-\hat{\beta}$)	95% confidence Interval for Exp ($\hat{\beta}$)	
							Inf.	Sup.
X_1	2.110	0.207	28.661	1	0.008	8.248	8.017	8.437
X_2	1.501	0.214	39.023	1	0.000	4.486	4.283	4.627
X_3	2.201	0.092	25.723	1	0.005	9.034	8.820	9.283
Constant	-10.298	0.771	71.097	1	0.030	0.000	-	-

Source: Author

This table provides the regression coefficients $\hat{\beta}$, the statistical Wald to test the statistical significance, the odds ratio Exp ($\hat{\beta}$) called also the odds-ratio for each explanatory variable, and in the end the confidence interval for each odds ratio (or). First of all looking at the results, we find a highly significant for the set of predictor variables on the variable response to as "the Act of passing the police citizen". However, the signification asymptotic (bilateral) p of the explanatory variable, "The reception of the public and the organization of work in the public way ($X -_1$)" is $0.008 < 0.05$, p "abuse of women and minors who are victims ($X -_2$)" = $0.001 < 0.05$, p "internal and external Communication ($X -_3$)" = $0.000 < 0.05$.

However, it is easy to interpret the meanings "p", but the question that arises at this stage is on how to interpret the regression coefficients $\hat{\beta}$. What is the coefficient, and how can we interpret it ? However, the regression coefficient $\hat{\beta}$ can only explain the meaning of fluctuation between the explanatory variable and the response variable. That is to say, that a positive sign of the coefficient $\hat{\beta}$ refers to a change in the same direction between the predictor variables and the dependent variable, while a negative sign gives a change in either direction opposite of the two variables. Apart from the coefficient $\hat{\beta}$ is not really interpretable. However, the exponential of " $\hat{\beta}$ " (exp ($\hat{\beta}$)) endorse a meaning understandable by the statisticians. L' "exp ($\hat{\beta}$), also known as odds ratio (or), report of the cotes, report, opportunities, or as a relative risk close, which refers to a statistical measure, disclosing the degree of dependence and the effect of an explanatory factor in relation to the response variable.

The column exp($\hat{\beta}$) (Odds Ratio) tells us that the different explanatory variables influence each of them a distinct way on the variable to predict. According to our case, we can claim that the determinant "reception of the public and the organization of work in the way of public (X_1)" can generate eight times more likely (OR ($X -_1$) = 8.248, IC5% = [8.017, 8.437] that the concept of police-citizen be able to experience failure. In the same groove, the "abuse of women and minors who are victims (X_2)" also enables two times more likely (OR($X -_2$)) = 4.486, IC5% = [4.283, 4.627], this concept is managed and improved. Thus, the " internal and external Communication (X_3)" four times more likely (OR($X -_3$) = 9.034, IC5% = [8.820, 9.283]) he is also achieved.

5. Conclusion

We come to the end of this research, which aimed to respond to the problem of the prediction of the success of the concept of community policing, called the citizen and the analysis of the impact of the axes of continuing police training (in the context of public safety) within the

premises of the institutions police on the success or failure of this concept. Moreover, even the best institutions in the police across the world have not yet reached the threshold of desired in matters of citizenship of the police. In other words, these institutions are in a continuous search to improve the design of the font, close the so-called citizen through the continuous training of professional and their application in the field of in an appropriate manner, ensuring a better interrelation between the two citizen actors-police administration.

In a view to assessing the impact of the determinants of continuing vocational training police mentioned on the success of the introduction of the concept of community policing so-called citizen, we have tried to mobilize the linear models, generalized (GLMs), specifically the binary logistic regression. Indeed, the prediction of the success of this concept (response variable), was supported by the choice of a variety of training modules for police, such as, management, innovate, and the reconciliation with the public, the integrity of police and the strengthening of preventive measures. This article has focused attention on the professional training of police " rapprochement with the public ".

This exploration has demonstrated finally, a positive correlation was highly significant between the history of the professional training of police cited above, and the success of the concept of community policing. The sequence of this study has been through two successive stages. The first is qualitative devoted to the selection of the determinants of police training continues, with a significant impact on the success of the concept of community policing. The second step is quantitative explaining the prediction of the success of this concept through the Logit model. However, we can claim that the determinant "reception of the public and the organization of work in the way of public (X_1)" the " abuse of women and minors victims (X_2)" and the " internal and external Communication (X_3) " has a positive effect on the success of the concept of community policing in the area of the province of Kenitra (Morocco).

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