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What works in prison? Revisiting reintegration programs in Mexico

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ABSTRACT

This paper explores the classic questions of whether social reintegration programs are successful and, if so, which correctional program yields better results. We seek to respond to these questions with information gathered from the most recent national incarcerated population survey in Mexico, based on the imprisoned persons' perspectives regarding their expectations for social reintegration and prison reentry. The empirical strategy consisted of two steps: identifying the characteristics of programs considered useful for social reintegration and exploring the association between perceptions of these tools and expectations for prison reentry. A propensity score matching analysis and the estimation of two classification methods were implemented, while an instrumental variables analysis was used for the latter. Results show that incarcerated persons perceive those programs aimed at providing them with work skills and furthering their education to be more helpful. These are also associated with a decreased expectation of prison reentry.
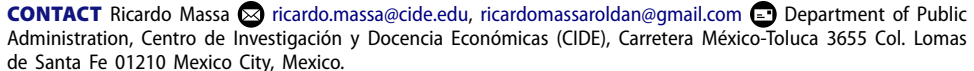
Introduction

In recent years, policymakers and practitioners have once again debated the role and importance of social reintegration programs within the context of regional public policies of mass incarceration (Luminita et al., 2021). Given the overpopulation of prisons, seriously deficient provision of basic services, and insufficient correctional programs, determining "what works" has become fundamental. From the celebrated contribution of Martinson (1974; Miller, 2012), the discussion has centered on identifying successful programs for social reintegration (Latessa et al., 2020).

In general, such programs are studied from a therapeutic perspective (addiction or psychological problems) or in terms of social reintegration (personal relations, work, among others). The former focuses on the

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treatment of behavioral problems (psychological therapies, addiction treatments) as it is assumed that the criminal behavior or possible reintegration is related to the abuse of illicit substances or psychological problems (Reisdorf & Rikard, 2018; Jason et al., 2015). Criminal conduct is understood as being connected to a condition that can be diagnosed, and therefore treated. In drug treatment programs, for example, desistance is based on controlling the consumption of illicit substances (Maruna & LeBel, 2012; Taxman, 1998) and its gradual reduction is one of the most important elements for measuring the efficacy of such programs.

The second perspective emphasizes personal relationships as well as community and socioeconomic inclusion for released persons (Duwe & Clark, 2014). Individual attention is not considered sufficient to ensure desistance and thus it is important to provide people with the necessary tools and skills to reintegrate into society and confront obstacles, disadvantages, or problems that foster undesired behavior (Kjellstrand et al., 2022). As part of the transition process of individuals, they should be equipped with both survival skills as well as skill-based services, particularly those focused on literacy and job training (Petersilia, 2004; Taxman, 2008; Taxman et al., 2003).

In this sense, educational programs are helpful as low educational attainment is a barrier to accessing the labor market. Moreover, an indirect effect of education is the increase in feelings of self-efficacy and self-esteem that may serve to reduce recidivism (Fabelo, 2002; Hall, 2015). Work programs have a similar impact as they create a sense of self-sufficiency, routine, and responsibility that improve the capacity to join the labor market and through this, society (Gunnison & Helfgott, 2011; Heinrich, 2000). In summary, such programs help to overcome reintegration barriers such as discrimination, stigmatization, and lack of support networks for social reintegration (Berg & Huebner, 2011).

The evaluation of these programs faces three major issues: 1) participation bias: participants are typically persons who are already motivated to desist and only seek out those programs that may help them to avoid recidivism; 2) the reduction of recidivism based on the criminogenic effect associated with imprisonment in general – compared to non-custodial sanctions-, estimated by some authors to be around 11% (Bonta & Andrews, 2016; Gendreau et al., 2002); and 3) the difficulty of implementing longitudinal studies to closely monitor the processes of each participant, as well as the (partial or total) results of their participation. As a result, Petersilia has stated that research/evaluation and practice of in-prison programs appear to move along independent tracks (2004), with no communication between them.

Despite the numerous studies of various experiments and programs, there is no consensus on their effectiveness, and much less on the most

appropriate one for a successful social reentry (Farabee, 2005; Farrington & Welsh, 2005). While some have had positive results, long-term impact evaluations remain difficult (Petersilia, 2004). Given this, the literature is divided: on the one hand, some authors have reported programs with successful results (Aos et al., 2006), while others are skeptical and relativize these (Weisburd et al., 2001, 2017). Few programs have demonstrated success in satisfying the needs of people released from penitentiary centers during their process of reintegration into the community. It is, therefore, necessary to design and implement interventions on an individual, familial, and community level to address perceived barriers to reintegration (Clear et al., 2001; Seiter & Kadela, 2003; Turanovic et al., 2012), as well as, of course, to evaluate these community reintegration interventions (Listwan et al., 2006).

Within this context, this study proposes a relatively distinct approach to analyzing the impact of correctional programs on recidivism: using the perception of incarcerated persons regarding their reintegration. This approach is relevant as motivation for desistance is vital for developing a successful reintegration process that, in principle, considers the difficulties of this process (social stigmatization, securing employment due to criminal antecedents, among others) while exploring perceptions of usefulness of those participating in said in-prison programs. However, the proposed aim faces a potential pitfall: the difference between what imprisoned persons perceive as a barrier and the actual ones they might encounter once released.

Considering this potential difference, as well as the impact they can have on the results, is pertinent as the perceived barriers prior to release will largely determine a) the participation and engagement of individuals in the reintegration programs and b) their behavior once outside prison (for example, if they expect to be stigmatized, they will act in anticipation of this regardless the actual interaction they will face). This may lead to an over (or under) estimation of the efficacy of the reintegration programs by the imprisoned individuals, which might impede a more accurate understanding of their assessment of the programs.

In this sense, to reduce the impact of said potential pitfall, the aim of this work is not to study the perception of incarcerated persons regarding their reintegration process (Travis, 2000; Visher & Travis, 2011), nor their actual barriers to reintegration (Iwamoto et al., 2012; van Olphen et al., 2009; Visher et al., 2004), but rather, to explore reintegration programs offered by prisons, whether these are considered helpful for overcoming the perceived barriers, and, lastly, to explore the association with the expectation of prison reentry.

To this end, information from the most recent national incarcerated population survey conducted in Mexico (INEGI., 2022) is used to pursue

two objectives: first, to explore the perception of the usefulness of the elements associated with the participation of incarcerated persons in the various prison programs. For this, a propensity score matching (PSM) tool was implemented, followed by the estimation of two classification methods (logistic regression and Naïve Bayes) to create a ranking for the relevance of factors in the perception of the usefulness of reintegration programs. Second, to explore whether this perception of usefulness is associated with expectations of prison reentry. For this, we implemented an instrumental variable (IV) analysis that enabled the exploration of whether a causal effect exists between the perceived usefulness of reintegration tools, primarily related to programs, and expectations of returning to prison.

The rest of the document is organized as follows: the second section describes the evolution of the theories that underpin the design and implementation of reintegration programs, particularly in the Mexican case. The third section discusses the data and methods used in the empirical strategy. The fourth section presents the main results, while the discussion and concluding remarks are presented in sections five and six, respectively.

Principles for reintegration programs

In the 1951 London conference, organized by the *Howard League for Penal Reform*, the term "rehabilitation" was officially adopted, replacing the previous categories of "help for prisoners" and "aftercare" contained in the old *Criminal Justice Act*. This change inaugurated an era of treatment for people in prison that complemented training, education, and trade skilling with social work and psychological attention for the recovery of individuals (Dawtry, 1951). This correctional ideal promoted the notion that prisons should be reform houses where criminals could be rehabilitated.

Rehabilitation was understood broadly before the rehabilitator ideal; it was common to use techniques that ranged from individual meditation in the first correctional houses (Bridewell – Roberts, 1984) or prisons (Walnut Street Prison – Skidmore, 1948) to hard labor and physical discipline (Morris, 1974; Rothman, 1995) aimed at changing, impacting, and disciplining both bodies and consciences. In this sense, the concept of rehabilitation transformed previous practices to focus on reforming imprisoned individuals.

The progressive model abandoned work and training as socializing functions and replaced them with individualized clinical treatment (McLennan, 2008). This paradigm resembled medical treatment, that is, an individual diagnosis (of the criminal) could be made and a reform treatment -cure- "prescribed." This went so far as to involve pharmacological and even surgical options and included anti-addiction programs,

individual counseling, parental advice, and vocational training, accompanied by changes in the prison environment, among others (Phelps, 2011). The rehabilitative model was the dominant approach until the decades of the 70s and 80s when it was replaced by a new, punitive approach based on a culture of control focusing on punishment (Cheliotis, 2006; Feeley & Simon, 1992; Pratt, 2007). This regression from the rehabilitative ideal was marked by the report, "What Works? Question and Answers about Prison Reforms" (Martinson, 1974) which highlighted the inefficiency of prisons as rehabilitation mechanisms.

The transformation of the penal system (Jacobson, 2006) and dismantling of the rehabilitative model had various causes (Phelps, 2011): a) the lack of empirical evidence of the efficacy of rehabilitation treatments, in particular, the absence of a strong connection between reform and a decrease in recidivism; b) the parole board model that discretionally decided whether an individual had been rehabilitated; c) the parole system that reduced the participation of imprisoned persons in correctional programs, and as such, participation in these programs no long carried weight in sentencing (Clear, 2007); d) a decrease of public trust in the authorities and in their capacity to instigate changes in crime (Allen, 1981; McNeill, 2018); e) a notable rise in crime rates (and fear of crime), accompanied by a lack of confidence in welfare state policies to contain criminality (Akbar, 2020; Garland, 2001); f) the appearance of conservative political rhetoric oriented toward "law and order" that argued that rehabilitation programs were soft treatments for crime (Pratt, 2007; Simon, 2007); and g) the growing problems experienced by imprisoned persons: in essence, the enormous racial differences and the appearance of highly violent prison gangs (Gottschalk, 2006).

The abandonment of the rehabilitation ideal was accompanied by an increase in pretrial detention, the severity of sentences, and a decrease in the granting of bail (Lacey, 2019; Zimring, 2001). Although some authors have argued that the paradigm of dissuasion and retribution consisted of a campaign of criminal policy rhetoric that did not always translate into the disappearance of rehabilitation programs, most had to adapt to the new needs of the system (McNeill et al., 2009; Phelps, 2011). Thus, despite the boom of the new criminal model, rehabilitation once again played an essential role in criminal policy through new social reentry programs for incarcerated people who had reached the end of their sentence.

Even though many rehabilitation programs had been eliminated, the growth in the prison population also meant that, over time, large numbers of incarcerated persons would secure their release. This, in turn, posed new challenges for the administration that the dissuasion and retribution approach did not consider: the social reintegration of released individuals (Rhine & Paparozzi, 1999). Successful reincorporation depends on various

factors, first during the incarceration itself, then in the transition from prison to freedom, and finally during the period of supervised release (Guy, 2009). To some degree, the rehabilitative ideal returned to the scene. While it was a rehabilitation based on the principles of the economy of crime (and individual's rational choice – Lynch, 2008), the discussion on conditions for the imprisoned individuals once again occupied an essential part in the debate on the role of prisons. To this end, social reintegration programs developed new methodologies based on cognitive and behavioral intervention models (McKenzie, 2006).

In two main ways, interventions for deviant behaviors were implemented centered on recovering the rehabilitative ideal (Bhaskar, 2023; Peck, 1987). The first was through a social learning model that considered individual behaviors – even deviant ones- to be learned through a process of social normalization where respect for the law depended on the benefits offered by obedience to the law and situational motivations. The second is the therapeutic communities learning model, which focuses on institutional arrangements of rehabilitation based on individual behavioral interventions.

The success of this rehabilitation model mostly depended on three factors: 1) availability of the necessary information regarding personal, social, educational, and occupational antecedents of the imprisoned individual; 2) identifying the appropriate stimulus to motivate the desired behavior; and 3) collaboration with the individual to recognize the satisfaction of integrating personal and institutional objectives (Peck, 1987). Following the years of law and order, many rehabilitation programs were designed based on the theories of social learning and symbolic interaction (Guy, 2009).

To this end, the restructuring of the reintegration prison model focused on the rehabilitative ideal to solidify the link between imprisoned individuals and the social structures for them to have a successful return to society (Anderson & Gröning, 2017; Rhine & Paparozzi, 1999; Valera et al., 2015; Wright et al., 2018). For this to happen, a critical aspect is providing incarcerated persons with the necessary skills, coping mechanisms, and factors theoretically associated with desistance and no recidivism (Turner & Petersilia, 1996), such as family and friends ties (Fondevila et al., 2024), religion (O'Connor & Perreyclear, 2013), education (Quan-Baffour & Zawada, 2012), labor (Richmond, 2014), and social skills (Bouffard & Bergeron, 2006).

Research into the critical factors for sustainable reintegration and reentry back into the community is still widely needed (MacKenzie, 2000; Wakefield & Uggen, 2010). In this regard, considering the multidimensional and complex process of reintegration, it is also essential for public policies to incorporate a community approach in assisting in the transition from

prison to society (Visher & Travis, 2003) such as reducing stigmatization, enhancing training and labor insertion programs (Fondevila et al., 2024) and providing the imprisoned persons voice to construct and integrated understanding of their perceptions and aspirations regarding their reintegration process (Andersen et al., 2020; Mathlin et al., 2024).

The case of prison reintegration programs in Mexico followed this generalized international evolution. In the mid-60s, for the first time, a reform introduced the notion of "social readaptation" of imprisoned persons (Berchelmann, 1980; Valdez Meza, 2017), based on a series of programs of criminal "treatment". In short, crime was then considered a social illness curable with prison treatment (Fernandez Muñoz, 1986; Zavala-Hernández, 2023). As argued by Jeschek (1980), the duration of treatment would be decided by an interdisciplinary committee, rather than by a judge, that would determine their "resocialization", that is, whether the internal values of an individual had changed through a technical progressive treatment consistent with a restructuring of their criminal personality (Agüero, 2023). The rehabilitative approach was maintained until the 1980s when the influence of the changes in the US led to the abandonment of treatment in prison. Although correctional programs maintained a low profile, the constitutional reform of 2011 replaced the "readaptation" of imprisoned people by incorporating, for the first time, the notion of "reintegration" as well as the means to achieve this:

> "The penitentiary system will be organized based on respect for human rights, work, training, education, health, and sport as means of achieving the reintegration into society of those who have been sentenced" (CPEUM, 2011, p. 23, art. 18)

Following the reform, the penitentiary system in Mexico was organized based on work, training, education, health, and sport as instruments for social reintegration to ensure that imprisoned persons do not return to crime. This reform generated a large body of literature divided into two streams: 1) a theoretical analysis of the legislative or legal (dogmatic) nature of the purpose of social reintegration, and 2) an empirical evaluation of the effectiveness of a local reintegration program. In the first, studies range from considering early release (Andraca, 2007) to guaranteeing human rights (Sosa Silva, 2023) in the context of the reform. In this sense, most of the debate was around the social function of the prison sentence as part of the reintegration process (Velázquez, 2012; Barajas Languren et al., 2015; Carrillo & Bravo, 2017; Saldívar et al., 2022; Navarro & Torres, 2024).

For the second body of studies, the empirical evaluation literature generally focused on either a state, a penitentiary center, or a specific program level. In the first case, Bonilla (2009) studies burnout in the correctional system of Jalisco, while Estrada Pineda et al. (2014) focused on the role

of social support in the post-penitentiary services of said state. On the penitentiary center level, some examples are the study of the social rehabilitation center #3 of Ciudad Juárez, Chihuahua (Sánchez & Moreno, 2024), two penitentiary centers in Mexico City (Sánchez, 2016) and those of Chetumal, Quintana Roo (Góngora, 2014). Finally, for the evaluation of specific reintegration programs, some examples are the study of the drug detoxification program at the social rehabilitation center of Manzanillo, Colima (Romero et al., 2010), educational programs for women in Sinaloa (Cabanillas et al., 2017), telehealth program in the penitentiary center of Querétaro (Rosas & Reyes, 2018), labor programs in Michoacán (Ayala & Zúñiga, 2020), male parenting programs at Mexico City penitentiary centers (Díaz, 2020), and sports programs in Nuevo León (Pérez, 2024).

To this end, in general, the referred theoretical and empirical analyses have pointed out that the constitutional reform has contributed to an overall improvement in the extent and conditions of the reintegration programs in the country. However, most of the programs can be understood as local or state-specific efforts. With that, their impact on fostering a successful reintegration of formerly imprisoned individuals is, at best, moderate. Moreover, the evaluations of the results of the programs have not been done at a national level and are typically focused on exploring a (potential or actual) reduction in recidivism rather than properly measuring the reintegration of the individuals.

In this sense, the novelty of the present work is to use information from a national survey to close this gap by proposing a two-part empirical strategy to explore the factors associated with correctional programs that are perceived by incarcerated personas as relevant for a possible successful social reintegration, and how these are associated with their expectations for prison reentry. To the best of our knowledge, this is the first study in the Latin American region with this perspective and scope.

Data and methods

The data for this study were taken from the *Encuesta Nacional de Población Privada de la Libertad* (ENPOL by its Spanish acronym) conducted in Mexico in 2021 by the National Institute of Statistics and Geography (INEGI) and published in 2022. This publicly available survey presents statistical information regarding the experience of criminal proceedings and incarceration of the imprisoned adult population in the 54 penitentiary centers in the country. It consists of 283 questions, distributed in 12 sections. It explores socio-demographic and socio-economic characteristics, due process, sentences, prison life, prison infrastructure, access to goods and services, violence, corruption, and incarcerated persons' expectations for their release (INEGI., 2022).

The sampling frame considered the total amount of imprisoned people in Mexico, approximately 211,000 individuals, at municipal, state, and federal penitentiary centers as of April 2021 (INEGI, 2022). The sampling was probabilistic and stratified to guarantee national, federal, and penitentiary center representativeness. Participation in the survey was voluntary, and staff trained by INEGI administered the interviews to the respondents individually, with no direct involvement of the penitentiary personnel in said process. The initial sample comprised roughly one-third of the total imprisoned persons in the country (67,584); however, only 61,449 interviews (91%) were completed, from which 49,743 (81%) of the respondents were men and 11,706 (19%) women. Finally, after cleaning the sample by removing cases in which complete answers had not been provided, the final database comprised 60,425 cases. That is, a sampling recovery that accounted for 89.41% of the initial design sample and 98.33% of the sample considering completed interviews.

Perceived usefulness of the reintegration tools

Social reintegration programs can be correctional, community-based, or both (Duwe, 2012). In Mexico, most interventions are unimodal; they focus on only one aspect of reintegration (for example, either work or education). While the system may be multimodal, as it deals with various social reentry aspects (employment, housing, social support, and substance use), each intervention remains unimodal. Participation of imprisoned persons in the programs is voluntary. Even though the penitentiary authorities work with the individuals to design a plan that better suits their characteristics and needs to organize their time and activities, the imprisoned person ultimately selects the program to participate in. Moreover, they can join all intervention programs of their choosing to maximize their reintegration possibilities (Bouffard & Muftić, 2007).

Considering the unimodal approach, the first part of the empirical strategy consisted of identifying those factors related to programs that incarcerated persons perceive to be helpful for their reintegration. For this step, the dependent variable (DV) consists of a measure related to the perceived usefulness of reintegration tools (**PU**) from the imprisoned persons' perspective. Based on the survey question, "Do you think that the penitentiary center has given you the necessary tools to reincorporate into society?", responses were operationalized as a dichotomous variable with a value of 1 if the answer was "yes" and 0 if the answer was "no" or "do not know".

The answer composition for the included variables of the 60,425 survey responses are summarized in Table 1. For the DV, 39,120 cases (64.7%) corresponded to having a favorable perception of the provision of

Table 1. Description of the variable operationalization.

	Variable	Survey question	Answer	Count	Percentage
Dependent	PU	Do you think that the penitentiary center has given you the necessary tools to reincorporate into society?	No/Do not know	21,305	35.3%
			Yes	39,120	64.7%
Independent	plan	Did prison authorities design a plan with you to organize your time and activities inside prison?	No/Do not know	37,838	62.6%
			Yes	22,587	37.4%
	study	Are you currently studying to further your education level?	No	46,874	77.6%
			Yes	13,551	22.4%
	type of work	What work activity(ies) did you do to obtain payment or some benefit from?	Do not work	18,992	31.4%
			Artisanal work	20,084	33.2%
			Carpentry work	3,453	5.7%
			Manufacturing work	3,589	5.9%
			Prison-related work	7,756	12.8%
			Others	6,551	10.8%
	type of workshop	Which course or workshop did you attend to learn a trade?	Do not participate	44,962	74.4%
			Artisanal workshop	5,750	9.5%
			Carpentry workshop	3,555	5.9%
			Manufacturing workshop	902	1.5%
			Technical workshop	1,724	2.9%
			Others	3,532	5.8%
Control	sex		Male	48,900	80.9%
			Female	11,525	19.1%
	age		18-19	460	0.8%
			20-39	37,813	62.6%
			40-59	19,821	32.8%
			60 and older	2,331	3.9%
	marital status		Single	33,369	55.2%
			Married/Partner	27,056	44.8%
	kids		No	22,696	37.6%
			Yes	37,729	62.4%
	school level		Elementary or less	14,976	24.8%
			Secondary	28,360	46.9%
			Tertiary	17,089	28.3%
	crime		Common law	54,573	90.3%
			Federal	5,852	9.7%
	time served		Less than 6 months	4,209	7.0%
			6 - 12 months	5,139	8.5%
			13 - 18 months	3,454	5.7%
			19 - 24 months	5,561	9.2%
			More than 24 months	42,062	69.6%

Source: Authors with information from INEGI. (2022) - ENPOL 2021.

reintegration tools by the penitentiary center, while 21,305 individuals (35.3%) declared having not received tools supporting social reintegration.

The independent variables for this step correspond to the possibility of participating in some activity related to education and/or work within prison. Following the unimodal perspective, these were treated as complementary rather than alternatives, as all are considered to play a significant role in reintegration. The variable, *plan*, was constructed from the responses to the question, "Did prison authorities design a plan with you to organize your time and activities inside prison?". These were operationalized as a dichotomous variable, with a zero if a plan had not been designed alongside the authorities and one if it had.

The variable, *study*, was operationalized as a dichotomous variable with a value of 0 when individuals responded "no" to the question, "Are you currently studying to further your education level?" and one if the answer was affirmative. Two additional variables were operationalized for activities related to work and study. The first, *type of work*, is related to the question, "What work activity(ies) did you do to obtain payment or some benefit from?" from which a 6-level categorical variable was developed. The base corresponds to the answer that individuals do not work, while values 1 – 5 were assigned to responses regarding artisanal work, carpentry, *maquila* (manufacturing work), prison-related work, and others.

Similarly, input for the variable, *type of workshop*, was taken from the question, "Which course or workshop did you attend to learn a trade?". Cero was assigned if individuals did not attend any workshop, while values 1 – 5 were assigned to artisanal workshops, carpentry, manufacturing, technical, and others.

As can be seen, although almost two-thirds of respondents considered that the penitentiary center had provided them with the necessary tools to reincorporate into society, approximately 63% did not have a personalized plan for organizing their time and activities. In addition, 74% of the respondents did not participate in workshops to learn a trade, and approximately 78% were not studying to further their education. Contrarily, high levels of participation can be observed in work-related activities in which imprisoned persons receive some form of compensation. Approximately 69% undertook work that related mainly to artisanal activities, or that was directly associated with prison chores.

As a first analysis, this could suggest that even when individuals consider that they have received the necessary skills to reincorporate into society, these appear to be outside their direct participation in educational or workshop activities, but rather, in those related to work. To develop these observations further, control variables were included in the analysis, drawn from factors identified in the related literature that impact

reintegration. Two groups of control variables were considered: socio-demographic factors and factors related to criminal conduct. The composition of the included control variables is also reported in Table 1.

The first group of control variables considered the following factors: state, sex, age, marital status, children, and education level (Fabelo, 2002; Pettus-Davis et al., 2019; Zhang et al., 2011). The *state* control was operationalized as a qualitative variable with 32 levels, with a value assignment corresponding to the code used by INEGI to catalog the country's different states. The *sex* control was operationalized as a dichotomous variable, using male as the base category, while *age* is a discrete variable ranging from 18 to 97 years old at the time of responding to the survey.

The *marital status* control was operationalized as a dichotomous variable with the value of one if the individual was married or in a domestic partnership and 0 if not. Similarly, *kids* was constructed using one if the person had children and 0 if not. Finally, the variable *school level* was operationalized as an ordinal (with three levels) with an assigned value of cero if individuals had no formal schooling or had completed up to elementary school, one if they had completed secondary school education, and 2 for tertiary education levels.

Two control variables were also included for factors related to criminal behavior (Cottle et al., 2001). To include a proxy for crime severity, *crime*, was operationalized as a dichotomous variable with common law crimes as the base and one for federal crimes. The second control, *time served*, was operationalized as an ordinal variable with five levels. The first related to having been in prison for less than 6 months, the second for between 6 months and 1 year, and the rest corresponded to the periods of between a year and 18 months, between 18 months and 2 years, and more than two years.

The empirical strategy of this first stage consisted of two steps. In the first, the PSM analysis (Evans, 2021) was implemented to identify subjects in the database who were comparable but with differences in whether they considered that the penitentiary center had provided them with the necessary tools for reintegration into outside society (Apel & Sweeten, 2010; Gaes et al., 2016; Silver et al., 2022). To implement this, the "matchit" function of the "MatchIt" library of the R statistical environment was used. Due to its capacity for dealing with outliers and rare categories (Rosenbaum, 2010), the selected method was the nearest neighbor matching using the robust rank-based Mahalanobis distance. This matching strategy yielded a database of 42,610 observations, as each of the 21,305 individuals who did not consider the programs to be of use was paired with the closest person who did find these useful for their social reintegration possibilities. The result of this step is reported in the Annex.

In the second step, two classification methods were implemented to explore the importance of program characteristics considered valuable for reintegration: logistic regression and Naïve Bayes (Massa et al., 2023; Na et al., 2021; Oh et al., 2022). The estimations of the latter were conducted with the "train" function of the "caret" library. For the resulting models, the importance of the variables within the estimation of each case was calculated through the "varImp" function of the "caret" library and ordered from largest to smallest to rank the relevance of factors in the perception of the usefulness of reintegration programs.

Perceived association between the reintegration tools and expected reentry

The second part of the empirical strategy explored whether a causal effect exists between the perceived usefulness of reintegration tools (*PU*) and expectations of returning to prison (*ER*). An instrumental variables (IV) analysis was implemented for this. This method is helpful for studying causal effects when working with surveys as it addresses the omitted variable bias, error-in-variables bias, and simultaneous causality bias (Pokropek, 2016).

Information from the 60,425 responses was used to implement the IV analysis. The control variables were the same as those used in the first part of this study. In contrast, the exogenous variable was the PU, and the instruments are the four variables related to the reintegration programs (plan, study, type of work, and type of workshop). The dependent variable ER was constructed using the question, "Considering the challenges and obstacles that you will probably face when you leave the penitentiary center, how likely or unlikely do you think it is that you will return to prison?" It was operationalized as a dichotomous variable where 1 indicates the perception of a high probability of returning to prison, and 0 indicates that such a return was perceived as improbable. In other words, a low value of ER represents a lower perceived probability of returning to prison.

In this sense, presumably, should the experience of being imprisoned (including the related to reintegration programs) has a deterrence/transformative effect on the individual, their social behavior will then be such one to avoid further criminal activities. In other words, under the rehabilitative ideal of reintegration, participation in said programs will be associated with changes linked to pursuing a noncriminal life once released. To explore this, in the first stage of this two-stage regression model, we sought to capture the effect of the control variables on PU in such a way that, if the instruments considered are helpful for this, the marginal effect obtained on the expectations of returning to prison during the second stage could only be explained by the exogenous variable (Cunningham, 2021). In other words, if the control variables and the instruments chosen

are adequate, the estimated marginal effect will characterize the association between the perceived usefulness of reintegration tools and the expected probability of prison reentry.

Results

For the first stage of the empirical strategy, two models were estimated using the resulting PSM subset of 42,610 observations. Model 1 used a classification method based on logistical regression, while the Bernoulli Naïve Bayes classifier was used in model 2. The upper panel of Table 2 shows the estimators for the logistic regression model[1]. In contrast, the lower panel reports the absolute value of the estimated Z-statistics (in absolute terms) in model 1 and a measurement of importance for

Table 2. Results of the estimated classification models.

Model 1: PSM + Logit	
Variable	Estimate
Intercept	−0.753***
Plan (Yes)	0.783***
Study (Yes)	0.343***
Type of work (Artisanal)	0.435***
Type of work (Carpentry)	0.470***
Type of work (Manufacturing)	0.593***
Type of work (Prison-related)	0.525***
Type of work (Others)	0.370***
Type of workshop (Artisanal)	0.489***
Type of workshop (Carpentry)	0.482***
Type of workshop (Manufacturing)	0.413***
Type of workshop (Technical)	0.425***
Type of workshop (Others)	0.553***
Sex (Female)	−0.147***
Age	0.000
Marital status (Married/Partner)	0.020
Kids (Yes)	−0.042*
Type of crime (Federal)	−1.166***
State: Effect	YES
Time served: Effect	YES
School level: Effect	YES

***Denotes rejection of the null hypothesis at 1%, ** at 5%, and * at 10%.

Model 1: PSM + Logit		Model 2: PSM + Naïve-Bayes	
Variable	Importance	Variable	Importance
Plan (Yes)	33.20	Type of work	100.00
Type of crime (Federal)	26.46	Plan	96.79
School level (Tertiary)	15.33	Type of workshop	64.19
State (Jalisco)	14.68	Study	51.04
Type of work (Artisanal)	14.15	School level	49.94
Type of work (Prison-related)	13.96	Type of crime	40.91
Type of workshop (Artisanal)	12.66	Time served	22.83
Study (Yes)	12.51	State	12.97
Type of work (Manufacturing)	11.52	Age	4.52
Type of workshop (Others)	11.42	Marital status	2.38
Type of workshop (Carpentry)	9.73	Sex	1.81
Type of work (Others)	9.40	Kids	0.00

the classification estimated in model 2. The first 12 ranking positions were reported in descending order for simplicity of presentation.

For model 1, variables in the first positions are those with a greater estimated predictability capacity for the dependent variable. On the other hand, for model 2, the significance measure reported shows how the (independent and control) variables are individually relevant, relative to the rest, for respondents' perceptions of the usefulness of reintegration programs. These are also presented in descending order for their comparison.

From model 1, it can be seen that having a plan of activities inside prison impacts the most on determining the usefulness of reintegration programs (33.20), followed by if the type of crime is Federal (26.46) and having tertiary school level (15.33). Regarding types of work programs, those related to artisanal (14.15), and the support and maintenance of the penitentiary centers (13.96) have a more significant impact on the PU than other types of work. On the other hand, workshop programs related to artisanal activities (12.66), others (11.42), and carpentry (9.73) are perceived as having more impact on the PU when compared to the rest of the workshop-related programs. Similarly, from model 2, work programs are the ones with the highest (100) relative importance, followed by having a plan (96.79) and workshop programs (64.19). To this end, the results of the first stage indicate that factors such as designing a plan of activities and implementing it through work activities, particularly those related to artisanal and prison maintenance, were the most important for predicting the respondents' perception of the usefulness of the tools received for their reintegration.

Using the information from the 60,425 responses, four models were estimated for the second part of the empirical strategy. Each one corresponds to a different IV related to reintegration programs. In model A, the type of work is the instrumental variable. In model B, the type of workshop is the instrument, while in C and D, instruments are, respectively, having a reintegration plan and participating in educational activities inside the prison. In all cases, the endogenous variable is the perceived usefulness of reintegration tools. The results of the estimated models are presented in Table 3.

The variable *plan* was not found to be an appropriate instrument to condition the effect of PU on the expectation of prison reentry (model C) as the null hypothesis of the weak instruments test failed to be rejected (Wu-Hausman of 1.5). This result is relevant as it suggests that having a plan is, on its own, insufficient to condition expectations of the usefulness of reintegration tools and the perception of prison reentry possibilities.

Based on models A, B, and D, the perception of the usefulness of reintegration tools appears to be inversely associated with prison reentry

Table 3. Results of the instrumental variable analysis (IV).

Variable	Model A Type of work Estimate	Model B Type of workshop Estimate	Model C Plan Estimate	Model D Study Estimate
Intercept	0.174***	0.159***	0.125***	0.178***
Usefulness of reintegration tools	−0.092***	−0.066***	−0.006	−0.100***
Sex (Female)	−0.034***	−0.034***	−0.034***	−0.034***
Type of crime (Federal)	−0.031***	−0.023***	−0.004	−0.034***
Age	−0.001***	−0.001***	−0.001***	−0.001***
Marital status (Married/ Partner)	−0.013***	−0.013***	−0.014***	−0.013***
Kids (Yes)	−0.004**	−0.004**	−0.004**	−0.004**
State: Effect	YES	YES	YES	YES
Time served: Effect	YES	YES	YES	YES
School level: Effect	YES	YES	YES	YES
Weak Instruments	160.3***	161.6***	1998.2***	456.3***
Wu-Hausman	23.9***	10.2***	1.5	16.4***
Sargan	8.0	2.3	NA	NA

***Denotes rejection of the null hypothesis at 1%, ** at 5%, and * at 10%.

expectations. This expected reduction is greater when individuals participate in activities to further their studies (Model D, −0.100), followed by cases when the type of work is the instrumental variable (Model A, −0.092), and when it is the type of workshop (Model B, −0.066). Simply put, the possibility of continuing with studies and participating in work activities are the elements of reintegration programs that best modulate the negative association between the perception of the usefulness of reintegration tools and expectations of prison reentry.

Discussion and concluding remarks

Prison conditions in Mexico and Latin America, in general, are characterized by a poor provision of basic needs, insufficient reintegration programs, and limited post-penitentiary services (Bergman & Fondevila, 2021). Following the 2011 constitutional reform, evaluations of the reintegration tools provided in prison (primarily in the form of reintegration programs) indicate an overall but moderate improvement in the extent and conditions of said tools in Mexico.

One of the main policy tools derived from the reform was the design of a plan of activities between the penitentiary authorities and the imprisoned individuals. In light of our results, although this tool has the most significant impact on determining the usefulness of reintegration tools provided in prison, it is insufficient for mediating its effect on the expectations for prison reentry. In other words, having a defined plan is appreciated by imprisoned persons but is not a determining factor in conditioning their perception of prison reentry. One possible explanation may be that the lack of institutional follow-up on the plan decreases the program participation and engagement incentives. In this sense, our first

recommendation is to improve the monitoring and follow-up mechanisms for the penitentiary authorities to ensure that the involvement of incarcerated persons in programs is aligned with the established plan and, if needed, timely corrections can be made.

Despite the reform seeking to provide imprisoned persons with more tools that favored their reintegration possibilities, the coverage of programs within Mexican prisons is scarce, insufficient, and oriented to pedestrian tasks. Most of the prison population is not enrolled in education programs or workshops. Moreover, practically 30% of the people do not work, and those who do are employed in precarious jobs that do not train them for the future nor enable them to acquire skills that could be useful in the labor market.

Even so, as shown in the results, incarcerated persons who participate in tasks related to prison maintenance or artisanal activities are more likely to positively perceive their possibilities for reintegration despite being tasks that have the least application outside the prison (or offer the least possibilities for labor insertion). Together with the result that incarcerated persons place greater value on continuing their studies and acquiring work skills as elements to reduce their perception of prison reentry, this may indicate a deficiency (or at least a failure to meet expectations) in training program options offered inside the penitentiary centers of the country.

Even though the Mexican Penitentiary system has failed to sufficiently equip imprisoned individuals with work skills and/or quality education, participation in such programs is perceived as decisive for reducing perceptions of prison reentry. This is understood within the context of receiving competitive training that is perceived beneficial for society and that promotes the reconstruction of identity (a self that is now valuable and with the necessary knowledge for society) as part of the process of social reintegration (Davis et al., 2013; Doherty et al., 2014; Enache et al., 2009; Mathlin et al., 2024). In other words, the better the work, the greater the probability of securing a better livelihood and rebuilding self-esteem, a sense of belonging in a community, and a greater commitment to living within the law. Work organizes and provides meaning to daily life, establishes patterns of social interaction, and comprises an extraordinary means of social control (Cook et al., 2015; Wilson, 2011).

Finally, this aligns with the idea that having a legitimate job of better social quality – regardless of whether they have the skills to perform it competitively– substantially decreases the possibility of reoffending (Harer, 1994; Kurlychek & Johnson, 2019; Sampson & Laub, 1997) and, with that, further prison reentry (Visher et al., 2005). In this sense, a second recommendation is to redefine and amplify the variety and scope of job training programs to include community and socially valued tasks and skills. This recommendation should be accompanied by a parallel improvement of the almost non-existent (Guerrero, 2021) post-penitentiary services (Day et al., 2011). Given the

participation of incarcerated persons in the prison's administration, it may be pertinent to establish an outreach program with companies that can outsource their administrative and maintenance services to them.

This study comes with various limitations. Even though INEGI's design of the survey is, from a statistical point of view, robust and representative of the imprisoned individuals in the country, some of the questions are phrased in different periods of time. For example, for those related to work and workshop reintegration programs, previous participation is being considered, while current participation is asked for study-related ones. Moreover, as no direct question addresses the amount of time being enrolled in either program, comparing perceived usefulness might be less accurate with, presumably, more weight on current participation.

Additionally, in the case of constructing the perceived usefulness of the reintegration tools variable, the way the question is phrased does not refer to the tools exclusively related to the programs. Although inefficient and insufficient, most of the Mexican penitentiary system's actionable tools for reintegration come in the form of educational, work, and training programs (Bergman & Fondevila, 2021). Therefore, one might expect the participants' answers to be linked to their perception of the reintegration programs. Unfortunately, the distinction between tools that are directly related to programs or other non-related ones is not made, thus limiting our capacity to study the perceived usefulness specifically of the reintegration programs.

Regarding the other dependent variable used in this work, how the question from which it is constructed is phrased might also generate confusion about which factors are considered to answer. The expectancy of prison reentry might be explained by a rehabilitative ideal in which the experience of being imprisoned (including those related to reintegration programs) has a deterrence/transformative effect on the individual's future behavior. In this sense, a low expectancy of prison reentry might be motivated by the sense of seeking to avoid recidivism. However, given a criminal justice system like that in Mexico, characterized by high rates of impunity (92% - ENVIPE, 2023), it could also be motivated by an improvement of their criminal skills to avoid being caught in a future offense. In other words, once released, formerly incarcerated persons think they are likely to continue with a life of crime but will be more careful not to be arrested and are, therefore, unlikely to return to prison. Unfortunately, we cannot address the proper motivation or considerations for constructing their prison reentry expectancy in the current form of the question.

Another limitation is related to the implementation of the interviews. As previously stated, the participation of the imprisoned persons in the survey is optional, and the 283-question instrument is applied by interviewers hired and trained by INEGI in a defined (physical and temporal) space. This likely lengthy process may incentivize respondents to over-

report their perception of the usefulness of reintegration tools and/or their prison reentry perceptions. That is, in the presence of an interviewer who may be perceived as an authority (or who could be perceived to be in contact with one), imprisoned individuals may be more likely to express that they consider programs to be helpful and that they do not expect to commit another crime that will return them to prison. In this case, the results would overestimate this association.

Finally, following the results and limitations of the present study, future research should explore the needs and perception of what a socially valued job means for the imprisoned individual and the community they aspire to reintegrate into. Moreover, from the estimated models, a gender difference in perception of the usefulness of the reintegration tools and the perceived prison reentry possibilities is observed. Women appear to find the prison reintegration tools less helpful than men. However, they also have a lower prison reentry expectancy. This partial result might suggest that what is perceived as beneficial for reintegration might be relativized around social notions of gender roles (marital roles and the presence of kids) and, regardless of the reintegration program, women's value to the community might be perceived not to be related to their work, but their function within their family and community.

Note

1. The results of the Naïve Bayes classifier did not yield estimators comparable to those of the logistic regression and are therefore not reported.

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Annex: Results of the propensity score matching

Variable	Means Treated	Means Control	Std. Pair Dist.
Plan (No)	0.558	0.748	0.411
Plan (Yes)	0.442	0.252	0.411
Studies (No)	0.745	0.829	0.232
Studies (Yes)	0.255	0.171	0.232
Type of work (No)	0.248	0.435	0.438
Type of work (Artisanal)	0.355	0.291	0.189
Type of work (Carpentry)	0.066	0.039	0.117
Type of work (Manufacturing)	0.069	0.042	0.127
Type of work (Prison-related)	0.149	0.095	0.175
Type of work (Others)	0.114	0.099	0.110
Type of workshop (No)	0.697	0.825	0.301
Type of workshop (Artisanal)	0.112	0.070	0.157
Type of workshop (Carpentry)	0.072	0.036	0.152
Type of workshop (Manufacturing)	0.017	0.010	0.096
Type of workshop (Technical)	0.036	0.016	0.119
Type of workshop (Others)	0.067	0.042	0.126
Sex (Male)	0.813	0.801	0.140
Sex (Female)	0.187	0.199	0.140
Age	37.32	36.89	0.453
Marital status (Single)	0.548	0.559	0.159
Marital status (Married/Partner)	0.452	0.441	0.159
Kids (No)	0.378	0.371	0.149
Kids (Yes)	0.622	0.629	0.149
School (Elementary or less)	0.266	0.220	0.149
School (Secondary)	0.481	0.436	0.173
School (Tertiary)	0.253	0.345	0.251
Time Served (< 6 m)	0.061	0.087	0.150
Time Served (6-12 m)	0.085	0.089	0.091
Time Served (13-18 m)	0.054	0.061	0.098
Time Served (19-24 m)	0.089	0.099	0.104
Time Served (> 24 m)	0.711	0.665	0.198
Type of crime (Common Law)	0.940	0.836	0.447
Type of crime (Federal)	0.060	0.164	0.447

Method: Nearest neighbor matching.
Distance: Robust rank-based Mahalanobis.
Note: State means not reported due to space constraints.