

## The Attitude Toward Prisoners scale: a revised short version standardized on Italians (ATP-IS)

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### Abstract

**Objective:** The Attitudes Toward Prisoners Scale (ATP) of Melvin et al. (1985) has been translated and used in different countries to assess the degree of positive and negative attitudes toward different types of prisoners and to investigate the impact of training and enhanced contact in modulating these attitudes, as well as the degree of negative attitudes reported by people and groups at a different extent of contact with. Even though the first validations of this scale in the USA, Spain, and Netherlands reported a unidimensional factorial structure, a four-factor structure emerged by more recent validations in Chinese and Romanian. We conducted two studies for translating and validating the ATP scale in Italian.

**Methods:** In study 1 we tested whether a unidimensional or multidimensional structure was supported by our data, while in study 2 we validated a new Italian shortened version of ATP, the ATP-IS. Furthermore, by using this new scale we explored the effects of gender, age, type of work, and previous experience of contact on attitudes toward prisoners.

**Results:** A unidimensional structure emerged for both the extended translated ATP Italian scale and the shorter ATP-IS. We observed that only previous contact had a role in increasing positive attitudes.

**Conclusions:** The ATP-IS is a valid test and reliable scale for assessing attitudes toward prisoners. These attitudes seem to be mainly influenced by a direct, event short, contact with prisoners.

**Keywords:** ATP (Attitude Toward Prisoners), ATP-IS (Attitude Toward Prisoners – Italian short version), prisoners, prejudice.

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## The Attitude Toward Prisoners scale: a revised-short version standardized on Italians (ATP-iS)

### Introduction

The Attitudes Toward Prisoners (ATP) scale has been developed and validated by Melvin and colleagues (1985) to measure attitudes and beliefs toward prisoners in the United States population. The scale, which still represents, after more than 40 years, one of the few attempts to measure attitudes toward this specific population (see Ashworth et al., 2018 for a review), has been translated and used in several countries, contributing to several studies in social psychology concerning prisoners. In particular, the scale has been used to investigate attitudes toward different types of prisoners (prisoners who self-harm: Ireland & Quinn, 2007; sexual offenders: Craig et al., 2005; mentally ill offenders: Church II et al., 2006; serious offenders: Boag & Wilson, 2014), the impact of training and enhanced contact in modulating the attitude toward prisoners (Boag & Wilson, 2014; Sabadosh, 2018), and the degree of negative attitudes reported by people and groups at a different extent of contact with prisoners (Chui & Cheng 2012; Kjelsberg et al., 2007; Ortet-Fabregat et al., 1993; Park, 2009).

All these studies contributed to increase the knowledge about the public's attitudes toward prisoners and their impacts on prisoners in experiencing detention and the subsequent reintegration into society. This specific field is very relevant from both the social and institutional point of view: the investigation of the social impact of different initiatives and programs addressed to increase contact with prisoners, for example, can be informative for policymakers and practitioners and could contribute to establishing new protocols and to improve not just the experience of prisoners, reducing the risk of recidivism. Indeed, the reduction of negative attitudes toward prisoners can have a long-term relevant impact, as several studies and reports (most of them in the UK) showed that experiencing a high level of prejudice enhances the probability of reoffending after the end of the sentence (Bell, 2010; Cleary et al., 2012). Kjelsberg et al., (2007), observed different attitudes toward prisoners in prison inmates, prison officers and employees, and students, and highlighted the possible negative implications of negative attitudes recorded on officers and students. On the other side, positive attitudes toward prisoners reported by prison inmates and people who work with them at a different extent of contact emerged as relevant in promoting an efficient rehabilitation process and positive outcomes after the end of detention.

Furthermore, the measurement of attitudes toward prisoners can provide us with several insights into the public's opinion on a hot topic related to prisoners, such

as, for example, the efficacy of rehabilitation and the chance of reintegrating prisoners into society. In this regard, above the study by Kjelsberg and colleagues (2007) that showed how degrees of negative attitudes toward prisoners could be moderated by type of employment or studies, Boag and Wilson (2014) claimed that attitudes toward offenders can be moderated by changes in the empathy levels toward them, still after one-day full-contact experience in prison. A study conducted on social perception regarding the indult measure in the cities of Brescia and Florence shows that citizens harbor a strong sense of dissatisfaction towards the indult measure and are deeply disillusioned with the rehabilitative function of penitentiary institutions, believing, in most cases, that the released prisoner will likely reoffend (Romano et al., 2008). Furthermore, for treatment purposes, it is important for the prisoner to have contact with the outside world: firstly, to mitigate the negative effects of imprisonment (Dolcini, 1981; Baratta, 1994; Pietralunga et al., 2007), and then to lessen the penalty on the family members, who undoubtedly bear the negative consequences of the crime (Corso, 1981 cited in Pietralunga et al., 2007).

All these aspects are very relevant in supporting institutions to improve politics related to imprisonment and, in particular, to provide more chances of rehabilitation during the holding period. Moreover, increased permeability of the prison institution towards free society would allow a change in "mentality" in seeing the detention facility as a separate reality from oneself and destined to remain closed (Pietralunga et al., 2007).

In this light, an instrument for measuring attitudes toward prisoners is a relevant source of information.

Watching literature, it emerges clearly how the ATP scale has been considered a valuable instrument to measure explicit attitudes in several studies concerning prisoners and prejudice toward them. Above the USA, the 36-item scale, very simple and short to administer, has been validated in Catalan (Ortet-Fabregat et al., 1993), English (Ireland, Quinn, 2007), Norwegian (Kjelsberg et al., 2007), Romanian (Nastas & Urzică, 2020) and Chinese (Chui & Cheng, 2019), but has not been translated and standardized in Italian. This fact represents a lost chance for Italian social researchers and the present study aims at filling this gap by providing a translated and shortened validated version of the ATP available for Italian colleagues.

### Psychometric properties of the ATP scale

The ATP is a scale composed of 36 items, 17 direct (positive statements) and 19 reversed (negative

statements), that evaluates the degree of individual accordance with some affirmations concerning prisoners based on a 5-point Likert scale (from “Strongly disagree” to “Strongly agree”).

From the first validation (Melvin et al., 1985) emerged that the ATP’s 36 items contribute all together to a unique latent construct that explained the 23% percentage of the variance. Although initially administered to 50 psychology students and 43 residents in 1977, and only then extended to other samples, as reported by Ashworth et al., (2017) the scale maintains relative robustness across years and studies. The first validation reported satisfactory psychometric properties: test-retest reliability of the scale was 0.8 and split-half reliability resulted high in all the samples involved ( $r \geq 0.8$ ). A following translation and validation of the ATP scale in Catalan by Ortet-Fabregat and colleagues (1993) confirmed the unique-factor structure (about 38% of variance explained), as well as the high degree of test-retest reliability ( $r = 0.92$ ) and internal consistency ( $\alpha > 0.9$  in all samples included). The validation of the Norwegian ATP included in the Kjelsberg et al., (2007) work, again confirmed a unidimensional structure (25.3% of variance explained) and a high degree of internal consistency ( $\alpha > 0.88$  in all samples included).

Despite these results, more recent translations both in Romanian (Nastas & Urzică, 2020) and Chinese (Chui & Cheng, 2019) revealed a four-factor structure very different from the unidimensional model proposed by Melvin et al. (1985). In particular, after the removal of 9 items based on items’ loadings, the Chinese version resulted in a four-factor structure that accounted for 49.52% of the total variance. The same happened in the studies on Romanian, where, after the removal of some items due to their loadings, the authors obtained a four factors solution with 26 items which accounted for 40.37% of the variance and showed a high degree of internal reliability ( $\alpha = 0.9$ ). In this last study it’s worth noticing that the analytic strategy used was different compared those of previous studies: here the authors assumed a possible between-items correlation due to the unique-factor structure emerged by Melvin et al. (1985) and thus applied an oblimin, instead of a varimax, rotation in the exploratory factor analysis (EFA). After this passage, they went for a confirmatory factor analysis (CFA) and for a network analysis.

Anyway, despite a similar factorial structure in terms of the number of latent factors and of variance explained, the four factors isolated by Chui and Cheng (2019), i.e., (1) Perceived Bad Character, (2) Prisoners as Normal, (3) Negative Perception of Interaction and (4) Empathy, were very dissimilar to those identified by Nastas and Urzică (2020). In the Romanian study, the four factors isolated were (1) positive, (2) parole, (3) ambivalent, and (4) negative attitudes. Part of the items included in the “Empathy” factor in Chinese were included in the “positive attitudes” isolated by the Romanian translation (items 7-8-15-26-28), and the 3 items concerning the “Negative perception of Interaction” of the Chinese

version were included in the “negative attitude” factor emerged in Nastas and Urzică (2020). Regardless of these few similarities, the four-factor structures presented in these works are not very consistent and both isolated some factors with very few items included: indeed, only 2 items (14-16) are present in the “Negative Perception of Interaction” factor of Chui and Cheng (2019) and just 3 items belong to the “parole attitudes” factor in Nastas and Urzică (2020). Moreover, items removed in the Romanian and Chinese versions are not the same. Indeed, even though authors reported having removed items from the original versions based on loadings, communalities of some remaining items had very low loadings in Nastas and Urzică (2020), and this information was not available for the structure of Chui and Cheng (2019).

These differences can, of course, be because the two studies are based on two very different populations in terms of cultural background. Beyond these observations, it is anyway relevant that these two studies, more recent and very far from the others in terms of time, report a factorial structure very different from the unidimensional one of Melvin et al., (1985), and showed the need to remove some items that are not adequate to the target population of the different countries and that, probably, are not even actual in the current days.

## Aim of the present study

Approaching the translation and the adaptation of the ATP scale to the Italian population, and in line with the results of these most recent studies, we aimed to translate and evaluate the goodness of fit of each item of the original questionnaire for measuring the construct of “attitudes toward prisoners”, and analyzing whether we could extract, based on our data, a unidimensional or multidimensional factorial structure.

To this aim, we conducted two separate studies, the first for testing our translated version of the ATP on the Italian population, and the second one for validating a new version, shortened, and revised based on the first study.

## Study 1. Materials and Methods – Participants

132 participants aged between 19 and 39 years (age on average = 25.75,  $sd = 5.22$ ) were included in our sample. Of those 69 were female and 63 were male, and a major part of them (52.9%) reported as level of education the high school, 20% reported to have a bachelor’s degree, 14.9% a master’s degree, 4% a Ph.D., and only the 5.2% reported an educational level under the compulsory school.

24 out of 132 had some contact with prisoners (ex. some of them participated in school projects that included a meeting with prisoners or did occasional work in prison), but none of them had a continuative contact with prisoners.

## The ATP's Italian translation

For obtaining an Italian version of the ATP scale, we applied a back-translation method: after having literally translated each item from English to Italian, we've asked to an English mother-tongue whose second language is the Italian to translate the scale back in English and then, we evaluated the consistency between this last translation and the original version.

After this first passage, to understand whether the language used, in terms of lexicon, was appropriate and updated to the current days, we have asked 5 judges to evaluate each item. For each item judges were asked to give a rate from 0-4 on the following aspects (based on Chiorri et al., 2011):

- clarity;
- centrality;
- not offensiveness;
- language in line with the linguistic skills of the participants;
- the item makes requests to which the participant is easily able to provide an answer;
- the item asks one thing at a time;
- the item refers to specific behaviors, avoiding generalizations;
- the item avoids references to frequency, especially if generic;
- no questions refer to multiple dimensions;
- the item minimizes the possibility that the subject understands the purpose of the item;
- the item avoids double negatives;
- the item avoids suggestive questions.

Average ratings of judges were considered for each item (see supplementary materials). In particular, the items that achieved a total rating score lower than 24 (50% of the maximum) were considered "very weak" and those that obtained a rating between 24 and 30 were considered weak. Based on this procedure items 1-2-3-4-6-9-10-12-14-17-25 were reformulated. As a last step, the scale was

administered to participants through an online survey for testing its structure and each item's goodness of fitting.

## Analysis

As a first step, the data collected on 134 participants with our Italian ATP version were entered in a principal component analysis. This first passage allowed us to evaluate the number of principal components to be isolated by exploring the scree-plot and the contribution of each item to the factorial structure. According to Nastas and Urzică (2020) we considered the possible items' correlations and we, thus, applied an oblique rotation (oblimin). Items with a communality lower than 0.1 were removed. After this exploratory step, we remained with 29 items, we run a second PCA to ensure that the overall structure was not affected by these removals and run two different confirmatory factor analyses (CFA) to identify whether our data better fit with a unidimensional (similar to the one reported in Melvin et al. 1985) or a multidimensional (in line with ecc. Chui & Cheng (2018), and to Nastas and Urzică, 2020) structure. As a final step, we also removed the items whose communality at the PCA was lower than .3 to obtain the shortened version of the Italian ATP (ATP-Is). The ATP-Is version was then tested on a different and wider sample of participants (see Study 2).

Data were analyzed in the R Statistical Environment (R core team, 2020), using the "lavaan", "Hmisc", and "psych" packages.

## Results. Principal component analysis

The PCA isolated more than 10 components with an eigenvalue > 1, however, when looking at the scree-plot (see Figure 1), 4 components could be isolated according to the inflection point. The first has the highest eigenvalue (= 3.2) and explains alone the 30% of variance.

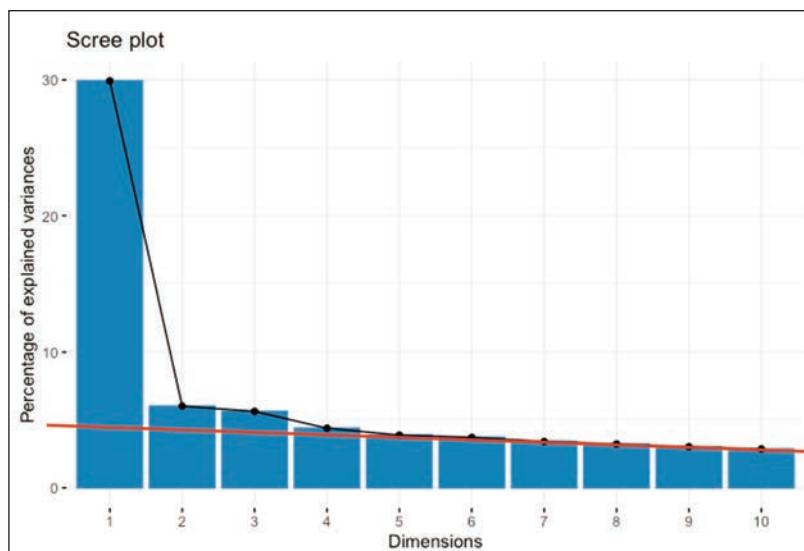


Figure 1 – Scree-plot extracted by the PCA.

As described in the materials and methods section, the items with communalities lower than .1 were removed before running the CFA (namely, items number 2-4-8-10-17-30-36). The Bartlett test ( $X^2_{(630)} = 2089.37$ ,  $p$ -value < .001) and overall MSA (0.89) suggested, anyway, very good sampling adequacy to run CFA.

After the removal of these items with a low contribution to the structure, a novel PCA isolated one factor (eigenvalue = 9.96) that explained alone the 34% of the variance. A four-factor structure could be isolated

too based on the inflection point in the scree-plot (very similar to the one presented in Figure 1), achieving the 50% of variance explained; this means that adding 3 further factors improved the explained variance of only 16%. Table 1 displays both the unidimensional and multidimensional structure underlying the unidimensional and multidimensional PCA. To better evaluate this aspect, we went for a formal comparison of two different CFAs.

Items (translated in Italian)	Unidimensional Structure			Multidimensional structure					
	F1	h <sup>2</sup>	u <sup>2</sup>	F1	F2	F3	F4	h <sup>2</sup>	u <sup>2</sup>
1. I detenuti sono diversi dalla maggioranza delle persone	0.57	0.32	0.68	<b>0.55</b>	0.31	0.42	0.22	0.36	0.64
3. I detenuti non cambiano mai	0.65	0.42	0.58	<b>0.62</b>	0.18	0.54	0.36	0.51	0.49
5. I detenuti hanno sentimenti come tutti noi	0.51	0.26	0.74	0.27	0.33	0.29	<b>0.68</b>	0.50	0.50
6. Non è saggio fidarsi troppo di un detenuto	0.54	0.29	0.71	<b>0.71</b>	0.14	0.34	0.16	0.51	0.49
7. Penso che proverei simpatia per molti detenuti	0.58	0.24	0.66	0.31	0.18	<b>0.76</b>	0.27	0.58	0.42
9. Dai a un detenuto un dito e lui prenderà tutto il braccio	0.63	0.39	0.61	<b>0.77</b>	0.37	0.22	0.31	0.66	0.34
11. I detenuti hanno bisogno di affetto ed elogi come chiunque altro	0.57	0.33	0.67	0.39	0.29	0.31	<b>0.72</b>	0.57	0.43
12. Non bisognerebbe aspettarsi troppo da un detenuto	0.65	0.43	0.57	<b>0.72</b>	0.26	0.43	0.29	0.56	0.44
13. Cercare di riabilitare i detenuti è una perdita di tempo e di risorse economiche	0.64	0.41	0.59	0.53	0.30	0.43	<b>0.55</b>	0.49	0.51
14. Non puoi mai sapere se un detenuto ti sta dicendo la verità	0.49	0.24	0.76	<b>0.61</b>	0.20	0.19	0.30	0.41	0.59
15. I detenuti non sono peggiori o migliori delle altre persone	0.46	0.21	0.79	0.25	<b>0.51</b>	0.40	0.07	0.34	0.66
16. Non bisogna mai abbassare la guardia con i detenuti	0.57	0.33	0.67	<b>0.51</b>	0.50	0.30	0.28	0.41	0.59
18. Se porti rispetto a un detenuto, lui farà altrettanto	0.53	0.28	0.72	0.48	-0.02	0.44	<b>0.52</b>	0.53	0.47
19. I detenuti pensano solo a loro stessi	0.44	0.19	0.81	<b>0.43</b>	<b>0.44</b>	0.20	0.13	0.30	0.70
20. Ci sono alcuni detenuti di cui penso che mi fiderei	0.61	0.37	0.63	<b>0.49</b>	0.27	0.49	0.41	0.40	0.60
21. I detenuti sono capaci di recepire le argomentazioni altrui	0.47	0.22	0.78	0.21	0.38	0.26	<b>0.62</b>	0.44	0.56
22. Molti detenuti sono troppo pigri per guadagnarsi da vivere in modo onesto	0.52	0.27	0.73	<b>0.56</b>	0.23	0.50	-0.06	0.48	0.52
23. Non avrei nessun problema ad avere un ex-detenuto come vicino di casa	0.68	0.47	0.53	0.47	0.45	<b>0.66</b>	0.22	0.53	0.47
24. I detenuti sono semplicemente corrotti dentro	0.54	0.29	0.71	0.20	<b>0.76</b>	0.33	0.34	0.60	0.40
25. I detenuti cercano sempre di approfittarsi degli altri	0.71	0.50	0.50	0.64	<b>0.67</b>	0.38	0.23	0.67	0.33
26. I valori della maggior parte dei detenuti sono quelli della maggior parte di noi	0.58	0.34	0.66	0.21	0.45	<b>0.67</b>	0.27	0.52	0.48
27. Non vorrei mai che uno dei miei figli uscisse con un ex-detenuto	0.64	0.41	0.59	0.58	0.31	<b>0.67</b>	0.00	0.64	0.36
28. La maggioranza dei detenuti sa amare	0.69	0.48	0.52	0.34	0.43	0.61	<b>0.61</b>	0.60	0.40
29. I detenuti semplicemente sono del tutto immorali	0.53	0.28	0.72	0.27	<b>0.68</b>	0.28	0.33	0.50	0.50
31. In generale i detenuti sono fondamentalmente cattive persone	0.56	0.31	0.69	0.20	<b>0.58</b>	0.40	0.48	0.48	0.52
32. La maggioranza dei detenuti può essere riabilitata	0.60	0.36	0.64	0.26	0.30	<b>0.75</b>	0.28	0.58	0.42
33. Alcuni detenuti possono essere anche persone molto carine	0.66	0.43	0.57	0.27	0.39	<b>0.72</b>	0.44	0.60	0.40
34. Mi piacerebbe frequentare alcuni detenuti	0.72	0.51	0.49	0.62	0.29	<b>0.66</b>	0.27	0.59	0.41
35. I detenuti hanno rispetto solo della forza brutta	0.53	0.29	0.71	0.30	<b>0.71</b>	0.33	0.18	0.52	0.48

Table 1 – Factor loadings, communalities (h<sup>2</sup>) and uniqueness (u<sup>2</sup>) of the Items belonging to each factor are in bold type for the multidimensional structure

*Confirmatory Factor Analysis*

Two different CFAs were run to test both the unidimensional and the multidimensional 4-factors structure. Comparative Fit Index (CFI) and Tucker Lewis Fit Index (TLI) were higher in the unidimensional model, conversely the Akaike and Bayesian Information Criterion (AIC and BIC) were lower (see Table 2).

Consequently, we calculated a unique total score for each participant. Based on the nonparametric analysis, no correlations between the age of participants and the ATP-I score were found ( $\rho = -0.12$ ,  $p\text{-value} = 0.15$ ), as well as no gender differences in attitudes ( $W = 2325$ ,  $p\text{-value} = 0.49$ ). Item-consistency was very satisfying (Cronbach's  $\alpha = 0.9$ ).

	Unidimensional Structure	Multidimensional Structure
RMSEA	0.081	0.095
CFI	0.782	0.668
TLI	0.764	0.664
AIC	9141.35	9619.82
BIC	9302.79	9787.02

Table 2 – Fit Indices of the two CFA models

Moreover, by looking once again at communalities emerged from the unidimensional PCA (See values in grey for  $h^2$  in Table 1), we excluded some further items that had a low contribution to the structure compared to others, or that were distributed, in terms of loadings, on more than one factor in the multidimensional structure. Items 7-14-15-16-18-19-21-22-24-35 were, thus, removed to obtain a shortened version of the ATP scale, translated in Italian (ATP-Is). This new instrument has been validated in the study 2.

the appendix). Our 19-items scale, called ATP-Is, is thus composed of 10 positive statements and 9 negatives (items 3-6-9-10-12-14-17-18-19 are reversed). As in the original version, the degree of accordance to each item has been rated by participants on a 5-point Likert scale.

As in the first study, the scale was administered to participants through an online survey.

**Study 2. Materials and Methods – Participants**

**Analysis**

In the second study there were 319 participants, but we had to exclude 12 of them because of weird or missing answers in the demographic form. One participant was further excluded because he/she gave the same answer to all the items. The final sample included 306 respondents aged between 19 and 60 years ( $F=173$ ,  $M=133$ , mean age = 33.7,  $sd = 10.11$ ). 44% of the whole sample reported high-school as educational level, while 26% had a master's degree and 18% a bachelor's degree. 238 out of 306 ( $F=123$ ,  $M = 115$ ) were workers, while the remaining 68 ( $F = 50$ ;  $M = 18$ ) were students. Participants' type of jobs or academic course were rated based on the degree of social interaction they requires and are classified in Table 3.

As a first step we performed a PCA on this new sample to explore whether a unidimensional or a multidimensional structure fit better the data. After this passage, as in study 1, we compared two different CFA based on fit indices. Split-half correlation and Cronbach's alpha for internal consistency were provided as performance indices of the scale.

Once definitely determined the best fitting structure we calculated the total scores for each participant and we performed group comparisons through non-parametric models for assessing the effect of genders, type of job in the subgroup of workers, and, finally, the difference in scores of those who had some contact with prisoners and those who did not. Internal consistency of the scale was also tested in the subgroup of workers and students.

Moreover 54 participants out of 306 had some contacts with prisoners or the prison context (ex. gr. A visit to prison for a volunteering or university project, work in prison, or other activities... see supplementary materials).

**Results. Factorial structure and performance indices of the ATP-Is**

**The ATP-Is scale**

Results were consistent to those of study 1. Overall MSA was of 0.93, MSA for each item was greater than 0.8 and the Bartlett sphericity test was significant ( $X^2_{(171)} = 2502.2$ ,  $p < .001$ ), confirming the adequacy of data for a factorial analysis. Even though from the PCA tree factors showed an eigenvalue higher than 1, a single factor explained alone 41% of the variance (eigenvalue = 7.82) determining a strong inflection point in the scree plot (see Figure 2).

The scale is a shortened version of ATP scale (Melvin et al., 1985) translated in Italian in our study 1. Based on low communalities and MSA for each value, 17 items were removed, obtaining this new version of the scale (see

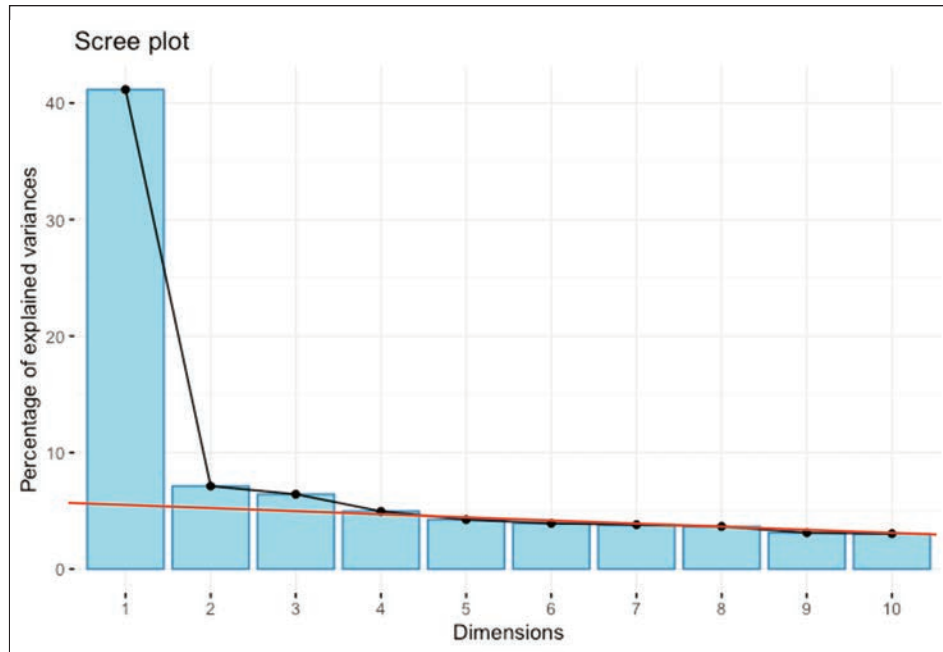


Figure 2 – Scree-plot extracted by the PCA run on the 19 items of ATP-Is.

When considering a 3-factor structure, variance explained increased of 14% reaching 55% (see supplementary materials for loading of the unidimensional and multidimensional structure on 19 items), anyway after running a unidimensional and a

multidimensional CFA, comparative indices revealed that a unidimensional structure fits better the data (see Table 3), thus, the sum of the whole items' scores has been calculated for each participant to perform group comparisons and further analyses.

	Unidimensional Structure	Multidimensional Structure (3 factors)
RMSEA	0.09	0.118
CFI	0.843	0.729
TLI	0.823	0.695
AIC	14072.35	14346.61
BIC	14213.85	14488.11

Table 3 – Fit Indices of the two CFA models.

The whole scale showed a good split-half correlation when total scores calculated from the odd items were correlated to those of right items ( $r_{(304)} = 0.87$ ,  $p$ -value  $< .001$ ). Overall internal consistency (Cronbach's  $\alpha = 0.91$ ) was highly satisfactory.

### Group-comparisons

Groups considered were female (N =173) and male (N= 133) participants in the whole sample, and students and workers subgroups (descriptive statistics for the ATP-Is total score, together with internal consistency in each group are reported in table 4).

	N	Average	sd	Range	Cronbach's $\alpha$
Overall	306	41.87	11.7	20-80	0.91
Students	68	43.5	11.2	21-72	0.92
Workers	287	41.4	11.8	20-80	0.91

Table 4 – Descriptive statistics of the total score reported by each group included, and internal consistency of the scale's items, stratified per groups

No gender difference emerged in the whole sample' attitudes toward prisoners ( $W = 12462$ ,  $p$ -value = 0.21); a linear regression on the variable normalized through a logarithmic<sub>10</sub> transformation revealed no age-effect on ATP-Is total score ( $F_{(1, 305)} = 0.39$ ,  $p$ -value = 0.52).

A subgroup of workers ( $N = 146$ ) whose jobs were classified as “educational and sanitary” ( $N = 52$ ;  $F = 37$ ;  $M = 15$ ; age on average = 35.54,  $sd = 9.22$ ) and “technical and administrative” ( $N = 93$ ;  $F = 38$ ;  $M = 55$  age on average = 38.29,  $sd = 9.43$ ) were compared to understand whether educational and helping professions reported significantly lower degree of prejudice toward prisoners. No job-type effect emerged from this comparison ( $W = 2069.5$ ,  $p$ -value = 0.15). The total group of workers ( $N = 287$ ) was further compared with the one of students ( $N = 68$ ), but no significant difference in the ATP-Is' score emerged ( $W = 9106$ ,  $p$ -value = 0.11).

Finally, we performed a comparison between a subgroup of participants that did not report any previous contact with prisoners and those who did. The idea of selecting this sub-sample of participant ( $N = 107$ ;  $F = 49$ ;  $M = 48$ ; age on average = 34.55,  $sd = 8.81$ ) comes to the fact that in our overall sample, only 54 out 306 (17%) participants declared to have the experience of a contact with prisoners. To solve this issue, we selected a subsample of participants ( $N = 53$ ) with no previous contact, perfectly matched for age ( $W = 1421.5$ ,  $p$ -value = 0.95), gender ( $X^2_{(1)} = 0.01$ ,  $p$ -value = 0.91) and levels of education ( $X^2_{(4)} = 2.54$ ,  $p$ -value = 0.63) to the group of people with previous contact with prisoners. Interestingly, the non-parametric comparison between these groups showed that participants with a previous experience of contact with prisoners had significantly lower levels of negative attitudes toward prisoners (ATP-Is average total score = 38.39,  $sd = 12.47$ ;  $W = 1814.5$ ,  $p$ -value = 0.016) than other participants (ATP-Is average total score = 43.43,  $sd = 11.63$ ; see Figure 3).

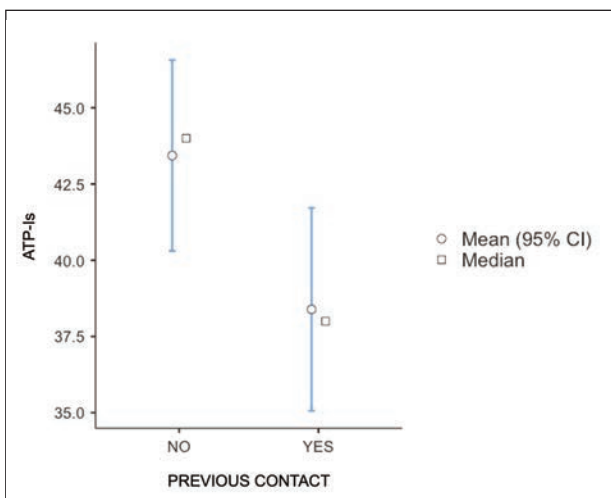


Figure 3 – Means scores to the ATP-Is scale in participants who declared having had (YES) or not (NO) previous contact with prisoners

## General Discussion

In study one we have translated and adapted the ATP Scale by Melvin (1985) In Italian. By looking at the factors isolated by the PCA, our results were very consistent with those presented by Melvin and colleagues (1985), and those replicated in the Catalan translation of Ortet-Fabregat and Perez (1993), as well in the Norwegian one by Kjelsberg et al. (2007). As in these studies, we observed that one factor alone explained most of the variance (30% in study 1 and 41.16% in study 2). Indeed, although both Melvin et al. (1985), Ortet-Fabregat and Perez (1993), and Kjelsberg et al. (2007) reported a level of variance explained by one factor under the 50%, the predominance of this unique factor on the others with an eigenvalue major than one, is a relevant result that cannot be ignored to interpret the structure. Nevertheless, when we inspected the scree-plot emerged by the PCA in our *study 1*, we noticed that, as for the Chinese translation by Chui and Cheng (2019) and the Romanian one by Nastas and Urzică (2020), a four-factor structure could be also extracted based on the inflection point (see Figure 1 and 3). The first bar representing the first factor had, in any case, a very high eigenvalue and drew another very strong inflection point in the plot. This fact, together with the high degree of variance explained by the unidimensional structure and the low increment in the percentage of variance explained when considering a multidimensional one (16% more), made us consider preferable, from this first step of analysis, the unidimensional solution supporting Melvin et al. (1985).

Anyway above considering the goodness of each item translated in Italian after so many years from its first formulation, the aim of *study 1*, was to compare two possible structures to determine based on data, and not only on our considerations, whether a multidimensional or unidimensional better fitted the data. To this aim, we compared two different CFAs through fit indices, after having excluded 11 items with a low contribution to the general structure. The comparison between the two CFAs supported our first idea of isolating only one factor, a position that contrasts with more recent studies on ATP. Anyway, these contrasting findings, it can be explained by considering some aspects. Both Chui and Cheng (2019) and Nastas and Urzică (2020) reported that a first factor explaining a wide part of the variance could be isolated based on their PCAs, but they went for a multidimensional structure. The choice to isolate four factors was, thus, supported in these studies by the intention of increasing the variance explained. In particular, as already mentioned in the introduction, from the point of view of the interpretation the four factors isolated in the two studies were very different and some factors contained very few numbers of items, becoming, thus, less informative than others. Overall, the structure underlying data in our study seems to be very similar to the one reported in these more recent studies (Chui & Cheng, 2019; Nastas & Urzică, 2020), but the choices in



how many factors isolating were different. In line with these considerations, we can also observe that Melvin et al. (1985) and Ortet-Fabregat and Perez (1993) reported to have chosen a unidimensional structure based on the high percentage of variance explained by one factor, but they did not report the Scree Test, so there is no chance to understand whether, also in their cases, a four-factor structure would be also supported by their data.

Anyway, by looking at all these works, above the different decisions taken by the authors, the structure of the data seems to be very consistent across-studies (including ours) and, thus, over 40 years of research. This fact suggests that, overall, the ATP scale has a very good replicability and it's a robust instrument for measuring attitudes toward prisoners, as already emerged by (Ashworth et al., 2017).

By looking more deeply at our translation, only four of the 11 items reformulated after the judges' evaluation, emerged as low informative from the PCA. These items, reformulated to be clearer for the participants, had, as many others, a very low contribution to the factorial structure. Indeed, the evaluation of items performed in the first study revealed that 7 items (2-4-8-10-17-30-36) should be removed. By looking at these items (see supplementary materials), consists of very strong statements such as "Most prisoners are stupid" (Italian: *la maggior parte dei detenuti è stupida*), or statements that can induce very unpopular opinion like "if a person does well in prison, he should let out on parole" (Italian: *se una persona si comporta bene in prigione è giusto che sia rilasciato per buona condotta*), we assume that most of them induced more neutral ratings due to social desirability.

Some further items (7-14-15-16-18-19-21-22-24-35), removed from the scale to obtain the shorter version of ATP, reported statements like "If you give a prisoner your respect, he'll give you the same" (Italian: *Se porti rispetto a un detenuto lui farà altrettanto*), "You never know when a prisoner is telling the truth" (Italian: *Non puoi sapere se un detenuto ti sta dicendo la verità*), "Prisoner will listen to reason" (Italian: *I detenuti sono capaci di recepire le argomentazioni altrui*), etc. To explain the fact that these further 10 items had a lower contribution to the factorial structure we can put forward some hypotheses: the first is that, even though we have carefully translated and reformulated items judged as difficult during the translation process, some of them could be interpreted anyway as complex in their formulation at the linguistic level. A second hypothesis is that some of these items require very strong opinions about prisoners and as already mentioned, induce a high degree of social desirability. One last hypothesis, instead, is that some of these items were considered too specific to be answered by someone who did not have any contact with prisoners and, thus, any knowledge of their real intentions and behavior. Indeed, by observing the 19 items remained in the ATP-Is, what emerges is that more general positive and negative statements about prisoners, like "Prisoners are different from most the people" (Italian: *I detenuti sono*

*diversi dalla maggioranza delle persone*) or "Most prisoners have the capacity for love" (Italian: *La maggioranza dei detenuti sa amare*) fit better our sample and, thus, actual Italian population. This evidence can be interpreted as a function of the different culture or of the different historical period in which our data were collected, by concluding that attitudes and prejudice toward prisoners are actually limited to general assumptions and do not include very specific beliefs about the nature of intentions, morality, and behavior of prisoners.

As emerged from *Study 2*, our revised shortened version of the ATP Scale, the ATP-Is, is a faster and more valuable instrument for assessing attitudes toward prisoners, with very good indices of reliability and validity. In particular, the ATP-Is, showed to provide a robust quantitative index of positive/negative attitudes that can be used to compare attitudes toward prisoners across groups, to test whether attitudes towards prisoners correlate or are predicted by other variables, or to be simply informative of the participant's attitude toward prisoners.

As for the translated 36-item version, a unidimensional structure fits the data better and seems to be of easier interpretations, so we did not isolate any subscale. Contrariwise we calculated for each participant a unique score and we used it to explore the effect of demographic variables such as age and gender. By looking at what emerges from our study 2, no effect of gender, or age seems to moderate attitude toward prisoners (supporting Ireland & Quinn, 2007), and also a type of job concerning the more humanitarian area "educational and sanitary", when compared to more "technical and administrative" jobs, does not promote higher or lower degree of negative attitudes toward prisoners, supporting Kjelsberg et al., (2007). Indeed, even though in Kjelsberg et al., (2007) study, the authors found that participants studying business economics reported more negative attitudes than those studying nursing, they did not find any "work-effect". This last issue, anyway, should be further tested in the light of levels of empathy: if nursing students of Kjelsberg et al., (2007) were motivated to undertake this type of study because of higher levels of empathy, we can make the hypothesis that empathy has a moderating role on attitudes toward prisoners. Further studies considering this variable, as already done by Boag & Wilson, (2014) on professionals who work with offenders, should be included in the research agenda.

In general, results emerged from our studies 1 and 2, can be interpreted by assuming that prisoners are seen as far from the common daily life and Italian people, regardless of their education, gender, type of work, or type of studies, do not show strong positive or negative opinions toward prisoners (average scores= 41.87, SD = 11.7, range: 20-80). The only factor that seems to influence people's attitudes toward prisoners is eventual previous contact with prisoners in their life experience, supporting Allport's Contact theory (Allport, 1954; see Pettigrew & Tropp, 2006 for a review). People who

reported previous contact with prisoners, indeed, showed in our study a significantly lower degree of negative attitudes and, thus, prejudice toward prisoners. This was true both for those who reported a prolonged contact or, at least, an occasional one, although further studies should be run to better study what kind of contact promotes and maintains a positive attitude toward prisoners. How much this process is influenced by emphatic skills, perspective takings, other prejudices, or political and religious beliefs, is something that must be further studied on the Italian population. The use of the ATP-Is will be a valid support for this further research.

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