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Contributions of Behavior Analysis to the study of the phenomenon of xenophobia: a literature review

Contribuições da Análise do Comportamento para o estudo do fenômeno da xenofobia: uma revisão de literatura

Conrado E. Ijanc Neto¹, Aline Picoli¹, Natalia M. Aggio¹

[1] University of Brasilia | **Título abreviado:** Behavior Analysis studying of xenophobic | **Endereço para correspondência:** Natalia M. Aggio – UnB - Brasília, DF, 70910-900 | **Email:** Natalia M. Aggio – nanaggio@hotmail.com | **doi:** org/10.18761/PAC1a23sd5a6

Resumo: A crise dos refugiados é um problema de grande relevância social, que por sua vez é acompanhado de uma discussão acerca de comportamentos relacionados a rejeição de estrangeiros, conjunto de comportamentos denominado de xenofobia. Dada a importância desta temática, junto com a perspectiva do potencial das discussões de analistas do comportamento para soluções de problemáticas sociais, o objetivo deste trabalho foi realizar uma revisão bibliográfica de artigos publicados com referencial teórico da análise do comportamento sobre xenofobia. A busca foi realizada por meio das palavras-chave “xenofobia”, “refugiados” ou “terrorismo” em abril de 2021, na base de dados *PsycINFO APA* e em sete revistas nacionais e internacionais de análise do comportamento. Os resultados apontaram para sete artigos, todos publicados em inglês entre os anos de 1991 e 2019, sendo cinco deles trabalhos empíricos e os outros dois com contribuições teóricas. Destaca-se que a maior parte dos artigos investiga o preconceito contra pessoas do Oriente Médio, sob a justificativa que a partir do atentado de 11 de setembro houve um aumento na rejeição destas pessoas pela população estadunidense. Apesar da urgência do tema, não foi observada nenhuma pesquisa aplicada, entre esses estudos, e todos os trabalhos empíricos se basearam no paradigma de relações conflitantes.

Palavras-chave: xenofobia, análise do comportamento, preconceito.

Abstract: The refugees crisis is an issue of great social relevance, which in turn, is followed by a discussion about behaviors related to rejection towards foreigners, named as xenophobia. Given the importance of this theme, along with the perspective of the potential of behavior analysts debates for social issues solving, the purpose of this study was to perform a literature review about xenophobia, covering published papers whose theoretical reference was supported in Behavior Analysis. The search was conducted through the keywords “xenophobia”, “refugees” or “terrorism”, in April 2021, on *PsycINFO* APA database and in seven national and international Behavior Analysis journals. The results led to seven papers, all published in English between 1991 and 2019. Five of them consisted in empirical studies, whereas the other two presented theoretical contributions. It is outstanding that most part of these papers investigate the prejudice against Middle East people, under the argument that, from the September 11 Attacks on, the rejection of North Americans population towards this people has increased. Despite its urgency, no applied research on this topic was found among the aforementioned studies, and all of the empirical ones were based in the conflicting relations paradigm.

Keywords: xenophobia, behavior analysis, prejudice.

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According to the United Nations High Commissioner for Refugees (UNHCR), about 80 million people live, nowadays, displaced from their place of origin under the condition of *refugee*, recognized as a forced migration due to persecution for reasons of race, religion, nationality, political opinion, social condition, as well as due to generalized poverty, serious risk of Human Rights violations and climate change consequences (The United Nations High Commissioner for Refugee [UNHCR], 2020a). Moreover, given the climate crisis imminent escalation, there has been a more and more doable tendency for this condition to be extended to a larger amount of populations, getting to its generalization to areas that cover entire regions, where the weather will become hostile and cause great part of the population to migrate (UNHCR, 2020a; Raymond et al., 2020; UNHCR, 2020b; UNHCR, 2021).

This displacement of people among territories sheds lights over the issue regarding the reception contingencies that the migrant will encounter at his destination. It is important to structure action that anticipate measures to prevent rejection towards these people and turn the place where they look for reception into an environment that is protective and as less aversive as possible. Among the variables that one might deduce as being part of this environment – when talking about an aversive one – and that have to be fought, xenophobia is outstanding. Xenophobia might be understood as a set of “attitudes, prejudices and behaviors that reject, exclude and often vilify people, based on the perception that they are foreigners or outsiders to the community, society or national identity” (International Labour Office [ILO] et al., 2001, p. 2). Yakushko (2009) explains that xenophobia is a multidimensional and multicausal phenomenon, intrinsically related to nationalism and ethnocentrism ideas, which are both remarkable in the belief that one nation or people are superior to others. The consequences of xenophobic behaviors are felt by the victims not only through discrimination, but also social ostracism, an exclusion setting in which a group is deprived of access to social goods, including education, political participation and even social relationships, for being a strange one to the dominant group (Sundstrom & Kim, 2014).

Examples of xenophobic behaviors might be spotted in situations such as the ones North Americans present towards people that are identified – due to symbols, clothing, appearance, language similarity, religious practice etc. – as coming from Middle East, since the World Trade Center attack by the Afghan Osama Bin Laden (Hayes et al., 2021). Moreover, we can mention the violent behaviors that target Eastern women (Thai, Chinese, Vietnamese, Filipino) who work in the United States and come from citizens that connect them to China, which, for its turn, is associated to the cradle of Sars-Cov-2, the virus responsible for the Covid-19 pandemic (Haynes, 2021; Mineo, 2021).

The impact of xenophobia on the living conditions of some populations should be seen as an object of study and social intervention of several sciences, among them the Science of Behavior. In Behavior Analysis, the action in the face of social issues starts with investigating the variables that control the behaviors that create such issues, as well as the ones that would increase the likelihood for competing behaviors, that do not generate these issues, to occur. The systematization of these variables enables for behavioral technologies to be developed and implemented on a large scale, which can minimize or solve such issues (Levy et al., 2019).

Despite the potential Behavior Analysis presents for developing tools that may reduce social issues, the criticism that little has been done when it comes to this development is not new (e.g. Holland, 1978). Social issues, such as the ones related to migration, bring back the question presented by B. F. Skinner in 1987: “why are we not acting to save the world?”, and provoke reflection on the reason why humankind does not act by modifying its behavior, in view of the prevision of issues that will inevitably arise from our current way of life and consumer model. Understanding the social setting in which an individual, such as the refugee population in vulnerability condition, is inserted, is also highlighted by the *American Psychology Association* as part of the researcher psychologist responsibility (APA, 2002, 2017). The refugees crisis is considered to be the largest humanitarian crisis of the century (UNHCR, 2020a). Given the behavior-analytic potential for acting towards social issues and, at the

same time, the suggestion that little has been produced about it in general, this study aimed to investigate the literature contributions for understanding xenophobia. To do so, a literature review on papers published in Portuguese and English about xenophobia that headed from Behavior Analysis theoretical reference was performed.

Method

The search for papers to be reviewed took place in April 2021, conducted by two independent researchers on *PsycINFO* APA database, through *Periódicos CAPES* website, and in the journals *Behavior and Social Issues*, *The Psychological Record*, *European Journal of Behavioral Analysis*, *The Behavior Analyst*, *Acta Comportamentalia*, *Perspectivas em Análise do Comportamento* and *Revista Brasileira de Análise do Comportamento* (REBAC). In Behavior Analysis journals, the search was performed by using the keywords “xenophobia”, “refugees” or “terrorism”, in Portuguese or English, depending on the language the journal is published in. As for the *PsycINFO* APA database, such keywords were searched truncated with the term “behavior analysis” in any search tool. The included publications were published articles up to April 2021. Papers published in languages other than Portuguese or English were excluded, as well as the ones that did not cover, spe-

cifically, issues related to prejudice against people coming from other cultures.

Starting with a title and authorship analysis, duplicate records were excluded. The selected papers were submitted to a relevance exam on the “xenophobia” subject that included reading the abstracts and checking the inclusion of one of the keywords throughout the document, in a context that involved prejudice. In cases in which the abstract was not clear about the approach related to prejudice, the paper was entirely read. After the sample was selected, the bibliographic reference lists of the papers were examined, in order to check new papers that attended to the inclusion and exclusion criteria.

The lists of papers selected by each evaluator were compared, and eventual disagreement cases were discussed with a third evaluator, so that a consensus could be reached.

Results

The selection made by the two independent reviewers resulted in six coincident papers and two non-coincident ones. After an agreement was reached (see Method), seven papers were selected, presented in chronological order in Table 1. No new papers were added to the sample following the search in the bibliographic references of the selected papers.

Table 1. Selected articles.

Journal	Paper Title	Authors	Year
The Psychological Record	Social Categorization and Stimulus Equivalence	Watt, Keenan, Barnes and Cairns	1991
Behavior and Social Issues	Terrorism and Relational Frame Theory	Dixon, Dymond, Rehfeldt, Roche and Zlomke	2003
The Behavior Analyst Today	Restoring Americans' nonequivalent frames of terror: An application of Relational Frame Theory	Dixon, Rehfeldt and Zlomke	2006
The Psychological Record	Exploring the development and dismantling of equivalence classes involving terrorist stimuli	Dixon, Rehfeldt, Zlomke and Robinson	2006
European Journal of Behavior Analysis	Reducing Prejudice towards Middle Eastern Persons as Terrorists	Dixon and Lemke	2007
The Behavior Analyst Today	Examining prejudice towards Middle Eastern persons via a transformation of stimulus functions	Dixon, Branon, Nastally and Mui	2009
Behavior and Social Issues	Addressing social and global issues: Viewing the Syrian refugee crisis through a behavior-analytic lens.	Levy, Vaidya, Dettmering, Siebold, Mittelman and Garner	2019

All papers were published in English, between the years of 1991 and 2019. Six of them are dated from the last two decades, published between 2002 and 2019. Among the selected papers, two were published by each of the following journals: *Behavior and Social Issues*, *The Behavior Analyst Today*, and *The Psychological Record*, and one by the *European Journal of Behavior Analysis*.

Two out of the seven papers presented theoretical analyses that add to the discussion on xenophobia, and five of them described empirical experiments. It is noteworthy that four of the empirical papers and one theoretical paper (Dixon, et al., 2003; Dixon, Zlomke and Rehfeldt, 2006; Dixon, Rehfeldt, et al., 2006; Dixon and Lemke, 2007; Dixon, et al., 2009) examined prejudice against people whose origin or ethnic descent is the Middle East, phenomenon that the authors point out to be a result of the terrorist attack to the World Trade Center building complex, in New York, United States of America, on September 11th 2001, which caused the Twin Towers to collapse and the death of 2.753 people.

Watt et al. (1991) start the empirical studies on aversion to cultural differences and social identification through stereotypes. The authors presented a proposal that aimed to study the categorization of distinct cultural elements by using the stimulus equivalence paradigm. The stimulus equivalence paradigm presents the operationalization of equivalence relations, analogous to meaning relations (de Rose & Bortoloti, 2007; Sidman, 1994). It is proposed that stimuli in an equivalence class present a substitutability characteristic in certain situations, which might be verified through tests on the emergence of reflexivity, symmetry and transitivity relations. In reflexivity, heading from the relation training between two stimuli (baseline relations), for instance between A and B, a relation between the stimulus and itself emerges (ArA and BrB, in which “r” represents *relation*). Symmetry is observed on the emergence of an inverse relation to the one that was trained (if ArB, then BrA). In transitivity, starting from the training between two baseline relations, for example ArB and BrC, an emergence of ArC and CrA (symmetrical transitivity) is seen (Sidman, 1994).

Watt et al. (1991) investigated the social categorization seen between Northern Ireland and England people. Northern Ireland was facing a

nationalist political conflict that involved Catholic and Protestant groups. The participants were Catholic and Protestant University students of Northern Ireland and Protestants of England, who were trained to relate Catholic names with meaningless syllables and, then, to relate the same syllables to representative symbols of Protestantism. The tests involved Protestant symbols as a model. As comparisons, the names used in the training were presented along with new Catholic and Protestant names. The experiment showed a consistent emergence of equivalence relation among the English participants and half of the Irish Catholic group, whereas the other participants of the second group and the Irish Protestants did not present an emergence of such relations, since they selected Protestant names when faced with the Protestant symbol. That is, it was possible to observe an emergence of relations mainly among those with no pre-experimental history of discrimination of Catholic and Protestant stimuli (participants from England were not part of the civil conflict), whether they were names or symbols. The authors argued that the results point out to an influence of previous relations to the ones set during the experiment, which prevented the emergence of new relations or variability in the response.

Heading from the reasoning proposed by Watt et al. (1991), Dixon et al. (2003) aimed to discuss the possibilities and ways of studying the phenomenon involving prejudice and aversion towards a minority group. More specifically, the authors address the fear that North American citizens have of people that descend from Middle East ethnicities. Their purpose was to understand why the behavior of a small group of Middle East people (the terrorists involved in the September 11th Attacks) caused people to fear, and even hate, other individuals coming from this region or their descendants, without them having committed such acts. The authors suggest that this aversion might be explained based on the Relational Frame Theory (RFT) (Hayes et al., 2001).

According to RFT (Hayes et al., 2001), heading from a contextual control, for verbally competent individuals, a stimulus might acquire different functions, which may vary in relation to Relational Coherence, Flexibility, Derivation and Complexity, and act in the emission of different re-

lational responses derived from the establishment of arbitrary relations among stimuli. For instance, Dixon et al. (2003) suggested that a North American who watched the attack on the Twin Towers on September 11th (stimulus A1) and emitted an emotional response of anger (response B1), had this response socially reinforced. Later, the television showed pictures of the terrorists (stimulus C1) responsible for the attack (A1) and, that way, a relation among the stimuli emerged. So, the pictures (C1) started to elicit the response (B1). Thus, A1, B1 and C1 began to present a coordination relation among themselves. Due to similarity, the response B1 began to be emitted towards other people coming from Middle East ethnicities. Moreover, the opposition relation emerged, in which North American people are not terrorists (stimulus C2), and Middle East people are (C1). Soon, all Middle East people came to be considered terrorists. According to the authors, therefore, the prejudice stems from this “overgeneralization” of the feeling of hate.

When analyzing the possibility of reversing prejudiced relations, Dixon et al. (2003) highlighted that educational activities planned to break this type of relation (Middle East/terrorist) are not always effective and, often, end up encouraging it even more. For instance, by saying that Middle East people are not terrorists, the stimuli “Middle East” and “terrorism” are always presented within the same context, which might, actually, strengthen a coordination relation between them. According to the authors, possible interventions could, for example, present stereotyped stimuli along with others of positive value, trigger a cooperative interaction between people from stigmatized groups and other groups, in addition to public policies, an institutional agenda of events for prejudice reduction, and the adoption of legal protection mechanisms, as well as cooperation ones. This could enable the establishment of new relations and, thus, change the function of stimuli previously considered as negative ones.

Heading from the theoretical study presented in 2003, Dixon and collaborators (Dixon, Zlomke, & Rehfeldt 2006; Dixon, Rehfeldt, et al., 2006; Dixon & Lemke, 2007; Dixon et al., 2009) performed a series of empirical studies, in which they investigated stimulus control relations connected to the possible aversion of the researches participants towards spe-

cific minority groups. In the four studies, the participants were North American University students.

In Dixon, Rehfeldt, et al. (2006), the authors proposed two experiments. In the first one, the participants accomplished a pre-test involving matching-to-sample (MTS) relations, in which the sample stimuli were either images related to terrorism (set of stimuli B), whereas the comparisons were North American symbols (set of stimuli C) and images of an airplane, a camel or the Twin Towers (set of stimuli D); or samples were from set C and comparison from sets B and E (apple pie, hot-dog or baseball field). The results suggested that the participants related C to E and B to D. Next, AB and AC relations were trained, in which the set of stimuli A was composed of words related to Middle East, such as “Afghanistan”, “Arabic” or “Islam”. Even though all participants achieved the right responses criteria in the training, a greater response latency directed to AC relations was seen (words related to Middle East/North American symbols). In the post test, the pre-test was applied again, added to BC and CB trials, with no presence of the comparison stimuli of sets E and D, as well as BA and CA relations trials. There was, then, a change in responding, since there was a greater percentage of right responses in comparison to the pre-test. Half of the participants began to relate C to B. The authors concluded that some preexisting relations can be undone by manipulating contingencies.

In the second experiment, Dixon, Rehfeldt, et al. (2006) aimed to compare the formation of equivalence classes, such as the ones trained in Experiment 1 (Set 2), with the formation of classes composed, only, of symbols related to terrorism (Set 3) and classes composed, only, of flower pictures (Set 1), in order to identify if there would be differences in the emergence of derived relations involving conflicting classes (Set 2), with known stimuli consistently related to the pre-experimental history (Set 3) and arbitrarily related during the experiment (Set 1). The procedure was identical to the one of Experiment 1, with the difference that the three sets classes were trained, with variation in the order of presentation. In the result found, the participants presented more right responses in the relation establishment training with the set of images only related to terrorism (Set 3). In addition to this, a greater number of partici-

pants demonstrated derived relations emergence for this set. The authors argued that stimuli of the set of images related to terrorism were preexisting to the ones established by the training, which could justify the better performance.

Dixon, Zlomke and Rehfeldt (2006) suggested that, once the control variables of the so-called prejudiced behaviors are identified, it is possible to investigate how they are maintained and how they might be reversed. This paper presented two experiments. In the first one, the sets of stimuli used were: the images of a tractor (A1), the Twin Towers on fire (A2) and the Yosemite National Park (A3); Osama bin Laden (B1), the United States flag (B2) and a war tank (B3); the Seal of the President of the United States (C1), Mohamed Atta (C2) and the Statue of Liberty (C3); and the words “peace” (D1), “resolve” (D2) and “unity” (D3). The procedure started with a pre-test composed of 72 BA, CA, BC and CB relations trials. The participants, then, learned the AB and AC baseline relations. Next, a first post test was performed, in order to check the emergence of BC, CB, BA and CA transitivity and symmetry relations. After that, a new baseline relations training was done, involving sets A and D. Finally, the participants accomplished a post test involving BC, CB, BA, CA, BD, CD, DB and DC relations.

The results of Dixon, Zlomke and Rehfeldt (2006) indicated that in pre test the participants consistently related the North American symbols to one another, and the terrorists with attacks symbols. In the first post test, an increase in the responses according to what was experimentally established as correct was seen, specially for the symmetry tests. In the second post test (which included the stimuli of set D), an increase in the responses according to what was experimentally established as correct was also seen, both for the symmetry and transitivity tests. Thus, according to the authors, the inclusion of the group of stimuli of set D might have made it easier for relations to emerge.

The second experiment proposed by Dixon, Zlomke and Rehfeldt (2006) replicated the first one and added, after the second post test, a retraining block for AB, AC and AD relations, followed by a third post test. The purpose was to check whether this inclusion would increase the evidences of emergence of relations in the last test. The results suggest-

ed that there was a performance improvement for all participants in the symmetry tests after the baseline relations were retrained. Considering the results, the authors concluded that the procedure might be suitable for the study of variables that have influence over the prejudiced behavior of North American people towards people coming from Middle East ethnicities, and that new researches can help to develop behavioral technologies with the goal of reducing or reversing prejudiced behaviors.

Dixon and Lemke (2007) expanded the findings of Dixon, Zlomke and Rehfeldt (2006) and Dixon, Rehfeldt, et al. (2006), by including a Likert scale as complementary measure for the pre- and post-test, with the purpose of assessing the prejudice intensity. The procedure started with a pre-test in which the participants were supposed to rate pictures of “Middle East men” (set of stimuli C) in a 1 (evil) to 10 (good) scale. Next, the relations between abstract images (set of stimuli A) and the words “good”, “neutral” and “bad” (set B) were trained, as well as the relations between sets A and C. Finally, the emergence of BC and CB relations was tested, and the participants accomplished a new classification test, identical to pre-test, in order to evaluate whether the rating changed or not.

Just like in the previous studies, Dixon and Lemke (2007) noticed a change in the participants responses between the pre-test, in which the rating of Middle East men was closer to the word “evil”, and the post test, in which this rating got closer to “good”. The results suggested that, through the MTS procedure, it is possible to seek for a cutback in behaviors considered to be prejudiced and measured through a Likert scale. The authors claim, however, that reducing prejudice is not only about reorganizing classes through the establishment of new coordination relations among stimuli, but also about reversing opposition relations, which was not trained during the experiment. They also highlighted that the most relevant changes among the stimuli classifications before and after the trainings were found in afro-descendant participants, which might have impacted the results. They added, therefore, that even in situations of similar behavioral histories among participants, when it comes to the stimuli used in the training, the ethnicity factor might be a determining variable for the result of emergence of a new relation.

Considering the importance of investigating opposition relations, in addition to the coordination ones, for understanding North American prejudices against Middle East people, Dixon et al. (2009) describe three experiments, in order to also analyze opposition relations. The first experiment was divided into five phases.

In Phase 1, the participants were supposed to evaluate, through a Likert scale, pictures of North American and Middle East individuals (set of stimuli A), pseudo words (set of stimuli B) and abstract drawings (set of stimuli C), and sort them from zero to 10 (“not at all” to “a lot”) in the face of the question “how much does this image look like a terrorist?”. Phase 2 was characterized by accomplishing trainings and tests, with the purpose of teaching participants to respond in the face of “same” and “opposite” relations. For each trial, two identical or different images (not used in other moment of the experiment) were presented in sequence, and the participant had to choose between the “same” and “opposite” buttons. In Phase 3, two images from set A were used as stimuli A1 and A2, in addition to the stimuli of sets B and C. The purpose was to set an equivalence class composed of a picture of a Middle East individual, a pseudo word and an abstract picture, and other class composed of a picture of a North American individual, a pseudo word and an abstract picture. Phase 4 repeated Phase 2 procedure, that is, the participants accomplished trainings and tests in which they should sort two images in sequence as the “same” or “opposite”. This time, however, images with North American symbols (for instance, the Statue of Liberty) or terrorist ones (for example, a picture of Osama bin Laden) were presented, followed by pseudo words used in the previous phase. For this task, the correct was to respond “same” when facing the “picture of a North American individual” and “pseudo word of the ‘terrorist’ class” sequence, as well as the “picture of a Middle East person” and “pseudo word of the ‘North American’ class” one. Moreover, it was correct to choose “opposite” for the “picture of a North American individual” and “pseudo word of the ‘North American’ class” sequence, as well as for the “picture of a Middle East person” and “pseudo word of the ‘terrorist’ class”. The experimenters wanted to assess whether the participants would learn this task, once it involved opposite relations to

the pre-experimental ones. Finally, in Phase 5, the Phase 1 procedure was repeated. The experiment results showed that, in the pre-test, the participants classified the pictures of Middle East men as being related to terrorism in a lower level than the pictures of North American men. In the post test, the classification of the pictures of Middle East men presented a very subtle change, whereas for other stimuli the average of the zero to 10 classifications increased. The authors discuss that North Americans might have become less likely to classify any Middle East people as terrorist, due to political measures that have been adopted.

The second experiment described in Dixon et al. (2009) was a replication of Experiment 1, switching the Likert scale by a sorting task in which the participants were supposed to cluster the stimuli to be used in the experiment with the words “terrorist”, “I don’t know” and “non-terrorist”. Moreover, the experimenters added elements to the pictures of Middle East people, in order to characterize them as muslims. The purpose was to identify whether these features would have influence over the experiment results. Thus, half of the Middle East people in the pictures were wearing muslim clothing items. The result showed that, in the pre-test, the participants of this experiment classified more the pictures of North Americans as “non-terrorist” ones, and the Middle East people ones as “terrorist” ones. In comparison to the post test, there was a change in the classification only for the pictures used to the formation of equivalence classes, but this function was not generalized for the other pictures of people with physical similarity. Thereby, stimulus A1, which was part of the “terrorist” class, was more clustered with the terrorist stimulus, but the other stimuli of set A continued to be clustered with “non-terrorist”. The same happened, in the opposite direction, towards the classification of stimulus A2 and of the other pictures of Middle East people. The third experiment was a replication of the second one, with the difference that the pictures representing Middle East men and North American men were replaced by pictures in shades of blue and red, respectively. The purpose was to eliminate the likelihood of pre-experimental relations with these stimuli. The results suggested that the stimuli in set A (colors) that replaced the pictures of Middle East

people started to be less classified as “terrorists”. However, there was no significant difference in the evaluation of the stimuli in set A that replaced the North Americans pictures. The authors pointed out that possible preexisting relations in relation to the stimuli chosen might have impacted the results.

Levy et al. (2019) presented a proposal for the analysis of social dilemmas, taking Syria refugees crisis as its example. The paper suggests a methodology that goes deeper into examining the situation, thus providing a behavioral data analysis that supports the proposal of interventions. According to Levy et al., the analysis of a social dilemma is complex and embraces different layers. Due to this, it must follow some steps: 1) defining the target to be analyzed, followed by 2) data collection and 3) mapping of the contingencies that make up the context that results in the dilemma and, by having this information, one must 4) analyze stimulus control contingency, 5) analyze macro and metacontingencies, 6) analyze variables that contribute to maintain “desirable” and “undesirable” behaviors, 7) project consequences of inaction, 8) come up with interventions and 9) work in a multidisciplinary manner. As for the analysis levels, the authors suggest adopting the RFT to identify stimulus control variables that lead to the reception or aversion towards Syrian refugees. The authors state, as an example, that Syria and Islam are in a coordination relation, just like Islam and “bad”. Thus, the relation “Syria – bad” emerges. Heading from this, news about Syria (that involve, for instance, news about refugees looking for shelter), start to evoke an avoidance response, which was originally triggered in the face of bad stimuli. A similar process might happen when the word “refugees” is settled in the same context of “job loss”. Following this argument, the authors suggest that type of analysis can help to understand political positions of countries regarding how to deal with refugees.

Levy et al. (2019) point out that, when it comes to analyzing metacontingencies, the first step would be to distinguish macrocontingencies from metacontingencies. For metacontingencies, the results of interlocked behavioral contingencies (IBC) change the future likelihood for new IBC. As an example, when it comes to reception policies for Syrian refugees, if lobbyists work for the approval of Government bills,

campaigns for the reception of refugees, just like interventions and advertisements (IBC) will be maintained only if they result in benefits for the group that proposed them. On the other hand, if they result in boycott from parts of the population that feel harmed, these IBC will be punished. It is necessary, then, to create contingencies that increase the likelihood for IBC that are related to refugees reception to be reinforced. According to the authors, an example would be to carry out information campaigns on the exploitation of refugees. By that, one would seek to establish coordination relations between “support the reception” and “human”, as well as between “not support the reception” and “inhuman”.

Levy et al. (2019) also suggest a non-linear analysis, proposed by Goldiamond (1974), that would include not only the analysis of the target behavior, but also of alternative behaviors and the possible reasons why they are not observed. The authors claim that, when performing an analysis on the behavior of opposition towards the entry of refugees into the country, the potential reinforcers for the alternative behavior of receiving refugees should also be studied. By creating strategies that establish reinforcing contingencies for the behavior of receiving and taking care of this population, it is even more likely for prejudiced behaviors against this group to decrease. Levy et al. also propose the analysis of the consequences of the behavior analysis inaction towards social dilemmas, considering its potential to, along with other sciences, enhance behavior changes in favor of solving them. Thus, the intervention for the Syria refugees crisis must be carried out heading from a set of strategies, considering the change in the acceptance responses towards this population in individual and collective levels, as well as the creation of measures in social level and the identification of possible reinforcers for behaviors that are consistent with refugees reception.

Discussion

Despite the importance of the theme, the social damages that arise, the suffering that such behavior produces, which become more and more common due to the increase of migratory movements all over the world, and considering historical and social factors, behavior analysis still presents little

literature, research and scientific productions on xenophobia. It is possible to see that other topics of similar social perspective, such as racism or gender violence, present more discussions involving ways to analyze such phenomena (e.g. Matsuda et al., 2020; Baires & Koch, 2020).

Mostly, the productions found study xenophobia by identifying stimulus control relations and use the conflicting relations paradigm, based on the explanatory model of the stimulus equivalence and of the RFT. Among the main contributions of Watt et al. (1991) study, it is noteworthy the identification of the relevance of the individuals' pre-experimental history over the formation of the equivalence classes programmed in the experiment, and the observation of a possible greater difficulty to reorganize relations into new classes, which was later studied by other authors. This seminal study presented a model, called conflicting relations paradigm, to the study of relevant social issues, such as racial (e.g. de Carvalho & de Rose, 2014; Mizael et al., 2016) and gender prejudice (e.g. Cartwright et al., 2016).

The set of empirical studies carried out by Dixon and collaborators (Dixon, Rehfeldt, et al. 2006; Dixon, Zlomke & Rehfeldt, 2006; Dixon & Lemke, 2007; Dixon et al., 2009) developed the proposal of Watt et al. (1991) regarding the use of the conflicting relations paradigm by investigating the prejudice of North American individuals towards Middle East individuals. The data seem to suggest that, among the participants, there was, consistently, a Middle East/terrorists pro-relation bias, and an opposition one between Middle East/United States and North Americans/terrorism (Dixon, Rehfeldt, et al. 2006; Dixon, Zlomke & Rehfeldt, 2006; Dixon & Lemke, 2007; Dixon et al., 2009). At the same time, some of the results suggested that, just like noticed by Watt et al. when talking about Protestants and Catholics from Northern Ireland, reorganizing these classes might be hard. These results also corroborate other studies on prejudice that found greater difficulty in reorganizing classes composed of stimuli with pre-experimental meanings (Moxon et al., 1993; Carvalho & de Rose, 2014). On the other hand, they present evidence on the variables that might influence it. For instance, in Dixon et al. (2009), the features in the clothing of

the people presented in the pictures (with or without traditional islamic outfits) had influence over the pictures evaluation and the results of the derived relations tests. In Dixon, Zlomke and Rehfeldt (2006) the inclusion of a set of stimuli with the words "unity", "peace" and "resolve" also suggested an increase in the percentage of right responses in derived relations. Just like found by Mizael and de Rose (2016) and Mizael et al. (2021), the inclusion of training parameters that make it easier for equivalence classes to emerge might increase the chances for the reorganization of classes that include pre-experimental stimuli to happen and could be investigated regarding xenophobic relations.

In the studies found in this review it is quite recurrent the justificative that the theme acquired relevance after the September 11h Attacks. More specifically, these researches focused in relations between Middle East people and terrorists. Hayes et al. (2002) describe that, by the time of these attacks, a lot of people classified them as "out-of-the-ordinary". The authors claim that the prejudice is related to the language development process, once it involves the categorization and emergence of relations. By focusing on this categorization, with no direct experience with the stimuli, one of the results might be the objectification and dehumanization of the other.

Other forms of xenophobia could also be investigated using the conflicting relations paradigm. This could be related to other forms of religion discrimination, such as against afro-based religion, or against refugees from other country. For example, nowadays, the Venezuelans are the second large group of refugees in the world (UNHCR, 2020b), but no research was found concerning this group. Another recent example is regarding COVID-19. Since the beginning of the pandemics, there are many reports of discriminations against people from China (e.g. Devakumar et al., 2020).

It is possible that the predominance of research found in this review, boosted by the September 11th Attacks, is related to the inclusion of the word "terrorism" among the keywords. Although the theme does not necessarily involve xenophobia, it was outstanding that removing this keyword would result on the elimination of papers that are relevant for the topic of interest of this study. Thus, among the results found in the search with the keyword

“terrorism”, care was taken in order to remove the ones that did not have as their focus investigating xenophobia.

In addition to investigating stimulus control relations, the empirical research aimed to develop procedures that could change the pre-experimental relations associated with xenophobia by reorganizing equivalence classes. It is remarkable, however, that the procedures only aimed to invert the relations among stimuli, which created control relations that related North Americans to “terrorist”. Considering the goal of undoing relations between Middle East people and terrorism, these procedures might be classified as effective. However, it does not seem to be advantageous to attribute such characteristic to the other part of the population. Therefore, it seems important to highlight procedures, such as the ones of de Carvalho and de Rose (2014), Mizael et al. (2016) and Mizael et al. (2021) about racism, that sought to change pre-experimental relations connecting groups of people and negative attributes, without creating classes with these negative attributes being related to other group of people. In these cases, classes with abstract stimuli along with negative attributes were included.

In our search, only the article from Levy et al. (2019) talks about the importance of taking a large perspective in analyzing xenophobia and include cultural aspects in this analysis. Saini and Vance (2020), when analyzing systemic racism, also calls attention for predominance of research on individual acts of racism, as opposed to a broader analysis, including racists cultural practices. Saini and Vance states that it is easier to identify individual acts, and therefore cultural practices are neglected in the analysis. In Brazil, the Federal Public Defender’s Office (FPDO) has denounced xenophobic illegal decrees regard Venezuelans refugees in Roraima (FPDO, 2021). These decrees aimed to difficult the entry of refugees in the country and facilitate deportation and is an example of the influence of the governmental controlling agency promoting prejudice practice. Therefore, its import to increase research in order to better understand cultural practices regarding xenophobia and how to change it.

Final consideration

This research aimed to investigate the behavior-analytic literature regarding xenophobia. There is a long date criticism that, despite the potential that Behavior Analysis seems to have to help decrease social problems, little has been done (e.g. Holland, 1978; Skinner, 1987). Our results shows that this is still a fact, regarding xenophobia.

Most of the articles found were investigating xenophobia related to Middle East people. Although our objective was not related exclusively to investigate only this aspect of xenophobia, it’s clear that this is a topic of great concern among the community. Other key-words could be included in future investigations, such as “religion”, or “culture” to verify if other results would come up. Although we used the PsychoInfo database to search for the articles, maybe including other non-behavior analytic journals could lead to different outcomes.

It is noteworthy that, despite the fact that all the papers brought up by this search draw attention for the importance of developing interventions in order to decrease prejudice against people from other cultures/religions, none of the studies gathered in here presented applied researches and only one includes cultural analysis of this issue. The same might be seen for other issues related with prejudice, in which the studies are rooted on basic or translational research (Mizael & Almeida, 2021). Although it is understood that the parameters of the procedures need to be well established before elaborating interventions in applied researches, it is also possible to identify the urgency that such social issues demand.

In the study carried out by Levy et al. (2019), a provocation is made to the community of behavioral scientists regarding Skinner’s questioning about the responsibility of our actions in caring for the world. In here, this questioning gains relevance again. Considering the large amount of tools developed by behavioral scientists for studying behavior, along with the observation of several violences that minorities have suffered day to day, one might question what our role as a community is when it comes to these social issues. Considering

the world scenario, the necessary attention seems to come up late. At the same time, the search made in this study, whereas summarizing the literature produced, should serve as a warning for action.

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