

AN ETHNOGRAPHIC STUDY OF TAGGING CULTURES

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ABSTRACT: Tagging is a kind of graffiti that involves writing one's name using markers or spray paints. In Brazil, the tagging behavior has spread all over the country and especially in the big cities. Aspects of the culture deserve careful attention by behavioral scientists. This article describes possible variables controlling the behavior of members of tagging cultures of Brazil, based on a behavior analytic framework. We performed an ethnographic study in which the researcher accompanied the taggers in all their normal activities as a participant observer of their culture; in addition, he conducted interviews. Our findings identified at least four different properties of the cultural practices: (i) The transmission of symbolic communication characterizing the cultural unit as distinguished from the rest of society. (ii) The shaping of increasingly sophisticated expression and artistic proficiency. (iii) The high visibility-high risk-high impact paradox. (iv) The hierarchical organization and status distribution. Having identified these cultural properties and the related behaviors, we discuss the contribution of a behavior analytic conceptual framework both for the purpose of tracing the possible contingencies of reinforcement and to suggest possible strategies for intervention that could result in alternative prosocial behaviors to replace tagging.

Keywords: participant observation, tagging behavior, *pixação*, cultural practices, taggers, Brazil

Tagging is a kind of “calligraphic writing of one's name ... Written with markers or spray paint, there is generally no outline involved in the letterforms” (Grody, 2007, p. 15). Tagging may be considered a transgressive behavior for at least four reasons; (a) the wall or other object chosen by taggers, is owned by a third party (either private or public), and if authorization is not obtained for any action taken towards other's property, tagging equals breaking the law; (b) tagged surfaces may present unwanted visual effects to others; (c) these effects may be intentional; and (d) taggers use other's properties for personal interests (e.g., to achieve fame). Those transgressions may take several forms possessing any or all of the functions cited above. Tagging always involves the tagger's nickname, but sometimes it is supplemented by other messages. A boy can declare his passion for his girlfriend on his classroom chair; a militant can tag his dissatisfaction with the prevailing political scenario; or an adolescent can tag his/her nickname in order to achieve social

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recognition. Frequently occurring practices of the tagging culture are destructive and harmful both to the one behaving and to his social environment, involving physical danger, drug use and police beatings. Understanding the variables that may be responsible for taggers engaging in these behaviors might provide society with better tools to deal with this phenomenon.

A variety of analytical approaches have been used to study tagging behavior. Some authors have investigated the implications between genre and tagging (MacDonald, 2001; Sechrest & Olson, 1971; Wales & Brewer, 1976); some have studied tagging as an expression of personal/social circumstances (e.g., Otta, 1993; Wales & Brewer, 1976); some have seen tagging as an opportunity for countercontrol against societal norms (e.g., Rodriguez & Clair, 1999) or as a type of communication among minority groups (e.g., Cintron, 1991; Adams & Winter, 1997), and some see it as a kind of street art (e.g., Cooper & Chalfant, 1984).

A number of social scientists have analyzed tagging behavior. Lachman (1984) saw tagging as the attempts of young people to win fame and recognition. Lachman provides an analysis of how the general social environment, as a cultural milieu, influences young people to counteract repressive social norms and describes how taggers create a supportive subcultural environment to maintain tagging through different recognition techniques. MacDonald (2001) views tagging as a career path for young people susceptible to the control of the graffiti's environmental reward mechanisms. The young individual enters the tagging culture as a boy and a nobody, but having gone through its illegal rites of passage to feed off its rewards, he emerges as a man and a somebody (p. 243). MacDonald maintains that the rewards for tagging behavior have the potential to articulate a process of change and development, transition and progression. The tagging culture, as MacDonald sees it, found a creative way of building supportive social environments with their own rites and rituals. Othen-Price (2006) offers a psychodynamic interpretation, arguing for a correlation between tagging and the developmental phase of adolescence. While offering different analyses of tagging, researchers agree that tagging is a resistance movement with strong reinforcing mechanisms of social attention and avoidance of the aversive control imposed by the contextual social dynamics. The present article has two main objectives. The first is to strengthen an empirically based conceptual framework suitable for understanding tagging cultural practices. We believe this framework will support our second objective, which is to analyze the contingencies of reinforcement for tagging behavior, and propose possible ways to manipulate these contingencies in order to influence the cultural practice.

Cultural Analysis of Tagging

In Brazil, the tagging culture, *pixação*, has spread all over the country and especially in the big cities. It has become an issue that needs to be looked at carefully by behavioral scientists. As a behavioral system, tagging culture may be seen within a cultural/systems perspective.

Human behavior is undeniably shaped in critical ways by its environmental context, the ecological matrix within which it occurs. Behavioral systems science focuses explicitly on understanding and, in applied research, changing the environments within which critical actors and classes are embedded. (Mattaini, 2013, p. 48).

Mattaini argues that entire social interactions, rather than their individual elements, are critical to the understanding of social dynamic groups. One definition of a cultural entity is "a complex adaptive social system possessing several observed and agreed upon characteristics prevalent and

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recognizable over time even though members of the system are replaced by new ones.” (Sandaker, 2009).

Our cultural approach is focused on the functional relation between environmental variables and cultural practices. As Biglan (1995) asserts,

A science for changing cultural practices will achieve the most progress if its philosophical goal is to predict and influence cultural practices (...) Failure to adopt this goal could mean that research on cultural practices does not produce practical methods for changing cultural practices, even if that research is methodologically sound and produces empirically confirmed theories (p. 29).

Biglan argues that an analysis of cultural phenomena that aims to achieve scientifically based principles should initially focus on unique cases. It is important to recognize that the analysis may or may not be valid for other situations. In this context, analysis of all environmental factors that appear to influence a practice in a given community is an important start. Once knowledge of the controlling variables has been obtained, cultural analysts can start to experiment with how to modify this practice. Effective interventions in one community can then be explored in other communities (Biglan, 1995).

Our units of analysis are cultural practices among young taggers in two cities in Brazil. Mattaini (1996) defined the cultural practice as “an operant transmitted (and often maintained) by a culture”; we include interlocked operants in our view on what constitutes a cultural practice (Skinner, 1953). If the measure of a practice is the occurrence of operants and interlocked operants over time; the main datum of a cultural analysis is the frequency with which members of a given group emit a given practice (Mattaini, 1996).

This article describes possible contingencies for the behavior of members of tagging cultures of Brazil. As tagging has spread over many cities, geographically different tagging cultures have emerged. The focus of this study will be on the tagging scenes in Brasília-DF and Goiânia-GO cities, the former being the capital of Brazil, and the later the capital of the State of Goiás: both cities located in the central part of the country.

Method and Approach

Participant observation and Interviews

We approached this as a qualitative analysis, using the anthropological methods of participative naturalistic observation and interviews with the participants of the study. The first author maintained direct contact with tagging crews from Brasília and Goiânia for approximately a month, over a total of 27 direct observation periods. Each period varied according to the activities in which the taggers engaged. The initial contact was established by Facebook chatting, when the researcher found the Facebook page of GASOL, a tagger from Brasília, and explained that he was interested in doing an ethnographic study on the tagging culture. The tagger agreed, and introduced the researcher to his social network of other taggers. The main network came from a crew called *Legião Unida pela Arte* (LUA – Legion United by Art). LUA is the biggest crew of taggers in Brasília, according to previous research (Abromovay et al., 2010). As LUA has spread to Goiânia, the researcher also established contact with taggers of this crew in that city.

When contact was established, the researcher interacted with the taggers almost daily. The behaviors of the tagging community are seldom transparent for the surrounding society, but one

possible way to get to know this culture is through participant observation. About participant observation, Jorgensen (1989) points out that

Participant observation is especially appropriate for exploratory studies, descriptive studies, and studies aimed at generating theoretical interpretations (...) the methodology of participant observation seeks to uncover, make accessible, and reveal the meanings (realities) people use to make sense out of their daily lives (pp. 13-15).

The researcher accompanied the taggers in all their normal activities, as a participant observer of their culture. He visited the taggers' homes; went to pubs with them; observed their tagging activities; participated in their WhatsApp group; accompanied them in bomb activities (the term for a group of taggers hitting a specific target together and tagging quickly to cover maximum surface); participated in their private parties, and went to graffiti events and concerts with the crews. He was accepted as a member of their culture, but he did not engage in any illegal activities.

The observation periods were conducted in Brasília and Goiânia. The researcher took notes from meetings, recording relevant information during or immediately after his interactions with the taggers. More formal interviews were conducted with seven participants of the crews; four from Brasília and three from Goiânia, with the objective of clarifying important points from the researcher's notes. When the researcher needed additional information, he asked taggers to give examples and further explanation of relevant points. Interviews took place via WhatsApp voice message: The researcher asked questions by using voice message, and taggers replied the same way. This served as a record of the interviews, and subsequent transcriptions of these messages are the basis for the direct quotations in the paper. WhatsApp chats were recorded and included in the data, as well as newspaper reports. Newspaper reports included in the data comprise items published during the observation activities, and older items archived by some of the taggers. While many phenomena of the tagging culture were observed and recorded; the main focus of the observations were the characteristics and functions of tagging behavior, and the analysis we offer is based on our view of these aspects as central to understanding the culture. We suggest a non-experimental analysis, or interpretation, of the tagging cultural practices, based on behavior systems analysis.

A Behavioral Justification for the Methodology Employed

Qualitative research, which is empirical research that primarily collects non-numerical data such as words and images, differs from the general research strategy of experimental behavior analysis along a number of dimensions (Christensen, Johnson, & Turner, 2011). Behavior analysts value controlled experiments that generate quantitative data that can be integrated with other findings to form the basis for general principles: the broader the generality, the better. Recognizing that life outside the operant chamber is complex, messy, difficult to control and observe, and to a large degree unpredictable, we must develop other tools for extracting knowledge about it (Todorov, 2009). The strengths of the experimental approach are well documented (e.g., Catania, 2007) and will not be argued here. The term translational research has emerged as descriptive of "application of basic laboratory principles to socially significant problems" (Hackenberg, 2013, p. 2); this has been the business of applied behavior analysts for a number of years. Baer, Wolf, and Risley (1968) list requirements for calling an intervention applied behavior analysis. The intervention must be *applied, behavioral, analytic, technological, conceptually systematic, effective* and *suited for generalization*. *Applied* refers to the social significance of the targeted

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behavior; *behavioral* addresses the nature of the dependent variable; *analytic* is a requirement for determining plausible functional relations; *technological* requires precise descriptions; *conceptually systematic* demands a coherent grounding in known behavioral principles; *effective* addresses the need for practically valuable consequences of the interventions (size and quality), and *generality* is a requirement for change that lasts over time and across relevant situations. When these requirements are met; an intervention can reasonably be termed applied behavior analysis and assessed on its merits, with appropriate concern for social validity.

Our approach to data and analysis in this paper is applied, behavioral and analytic. The study targets behavior of obvious social significance—vandalism, juvenile delinquency, drug use and anti-social behavior. It is clearly behavioral, and we offer interpretations of functional relations between behavior and variables external to the behavior, satisfying the criterion that the work is analytical. While we cannot provide precise descriptions as required under the criterion of technological, we attempt to be conceptually systematic. Effectiveness is mostly relevant when we suggest actual interventions at the end of the discussion; we will suggest interventions that are theory-driven and conceptually systematic, and we would expect them to be effective based on the available research literature. Claims of generality must be placed under the same constraints; the empirical questions here are beyond the scope of this paper. Cultural analysis as a scientific approach to understanding social change is still in its infancy, but contributions by distinguished behavior analysts suggest that this is a field with promise, and a field in which behavior analysis can be of social importance in collaboration with adjoining scientific disciplines. In this study, we use the basic principles from experimental analysis and extend them to an interpretation of non-experimental data. We agree with Donahoe and Palmer (1994) that “New processes, and principles that describe those processes, are never discovered through interpretation; interpretation is a consumer, not a producer of principles” (p. 127). Still, we engage in verbal interpretation, and because we ground it in principles identified in experimental analyses, we are confident that we have moved beyond mere speculation. Qualitative research is usually exploratory and mainly useful in generating hypotheses, not in testing them. Data will be subjective, and the external validity of qualitative studies is commonly low, with findings strongly tied to particular subjects and situations (Christensen et al., 2011).

Findings

Tagging Culture as a Set of Cultural Practices

Taggers’ culture involves many practices. One practice is that of choosing a nickname: beginners have to choose a nickname that will represent them. Choosing a name different from their own personal name makes sense if they want to avoid being identified by the authorities. If they used their birth name, both the community as a whole and law enforcement agents could easily recognize them. The nickname choices are not based just on the name itself (i.e., the meaning of the name). Taggers also consider how the letters fit and interact with each other visually (e.g., Cooper & Chalfant, 1984; Othen-Price, 2007). Choosing a name is a decisive step in the writer’s career. The name represents the tagger, and its first appearances on the wall are reinforced based on how the name looks and sounds, and how salient it is.

Some taggers have reported preferring certain colors to others: A preference for matte black rather than glossy black, or for chrome rather than silver for example (e.g., Abromovay, 2010, p.



Figure 1. Upper part of the figure shows tagging from Rio de Janeiro city. Lower part shows tagging from Brasília. As may be seen, letters from Rio are very tangled, almost illegible; in contrast, letters from Brasília are very separated and most legible.

114). Letter styles also occupy a key place in the culture, and letter formats are probably transmitted and maintained by the cultural environment (e.g., Mittiman, 2012). In Brazil, the letters are very different from city to city. Letters from Rio de Janeiro-RJ look like drawings with the letters very tangled; in Brasília-DF, letters are spaced (e.g., Figure 1). Geographical variations suggest that letter type is a practice of the culture that is transmitted from one generation to another, and is under control of the selecting cultural environment (e.g., Couto & Sandaker, 2016).

The culture also has verbal practices; lexica that people share inside the culture. In a WhatsApp group created by KALOR, from Goiânia, jargon words such as *detonar/mandar* (tagging), *neguin/lek* (buddy), *anarquizar* (cross-out a nickname), *pisante* (shoes) and many others appeared; not all of them match formal Portuguese language. When asked, KALOR said that this vocabulary is part of the culture and has been transmitted over generations (KALOR, 2014, personal communication). Rules, which rise in the culture, are also cultural practices that are transmitted (about rules as cultural practices; see Baum, 2000). A number of contingencies for practices inside the culture of taggers regulate nickname choices, the colors of spray, the shape of letters, and so on. The contingencies have their own characteristics; interact with each other, and form the culture of taggers.

The study of those practices invites the conclusion that the culture of tagging is closed off from the culture of mainstream society. Taggers have their own rules, language, and names, and operate on the margin of the society. Members of the tagging culture isolate themselves, and limit their interaction with society in general (e.g., Waclawek, 2011). This can be observed in any

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number of subcultures with a strong common bond and cultural practices that set them clearly apart from their surroundings: religious cults, like The People's Temple (Reiterman & Jacobs, 1982); personality cults (Sanders, 1971) or motorcycle gangs (Thompson, 1966). Taggers live in a social environment of other taggers, and many of their behaviors are related to tagging (e.g., MacDonald, 2006).

The culture is a bit closed, partly because of the preconceptions of general society on tagging. For the ones who want to get know this culture s/he has to have a trait, curiosity. Normally the society doesn't have that. Most of the time they grab information about us through the media, and you can imagine how the media works, they are always talking bullshit about us. Our studio is on the street; our art is there for anyone who wants to see it. It does not matter if it is poor, rich, black, white, ugly, or beautiful. It is there for anyone! If someone wants to understand this, our art is there; it is exposed. Our gallery does not close! (ANARK – LUA, 2015, personal communication)

Since the authors have chosen the behavior of tagging as the main practice to be analyzed we will suggest characteristics of the cultural environment that may explain the recurrence of the behavior of writing on the wall.

On Becoming a Tagger

Taggers commonly are interested in the tagging scene at the start of adolescence, usually contacting the graffiti scene in their school and neighborhood. One feature of tagging is visibility—tagging is everywhere, especially in the big cities of Brazil. ANARK suggests that high visibility and susceptibility to peer influence through modeling and direct reinforcement are important:

I started to get interested when I was still very young. I used to like drawing, and I always looked at the tags on the walls with curiosity. Then I started to understand and started to like and admire it. Then I started to get really involved and interested doing it by myself. At that time, I did not feel I had potential for drawing, I felt I wasn't creative. I think this lack of self-esteem contributed to my low motivation to continue to draw. On the other hand, I start to get really involved on the tagging scene. The tagging scene was feeding my interest: we are always on the street, looking at tags all the time up to a point that you get motivated to be good at it. This was one thing that I think was important to my devotion: I wanted to be good at tagging. My older neighbors were already involved with tagging. I had a bit of their influence, but not directly. They didn't speak directly to me; I never had direct contact with them. But I used to observe them doing it. (ANARK – LUA, 2015, personal communication).

The social tagging context for a novice changes with time and experience; increasing in complexity as his tagging behavior expands in geographical range from the neighborhood to the whole city. Imagine a situation where the tagger has just started to tag at school and peers start to reinforce his/her behaviors, saying: "Ohhh, I saw that you did tag on the restroom, it was yesterday, right?!?!", "Very nice to see your tag on that place, people will admire you for that!". Tagging at schools is normally done with pens and marker pens; using spray paint is very uncommon at that stage. Tagging behavior involves simple contingencies at this stage. The context is not as dangerous (e.g., punishment magnitude is lower) as it is on the street; the wall is more accessible; reinforcement schedules are denser, and the social environment involves classmates who already

have a relationship with the tagger. After tagging at school, the next step can be tagging in the neighborhood, a familiar environment where the tagger already knows the people. At this stage, the tagger starts to use spray paint instead of marker pens, requiring a more sophisticated technique. Contact with masters can occur, where a master tags with them, gives instructions, and provides reinforcement.

Everything started in my neighborhood, you know. I started tagging by using chalk: it was just a joke. After that, I used a tube of liquid shoe polish to tag, and finally I took the spray paint. I started to tag because of the guys from my neighborhood, I mirrored an older guy from there, you know. I wanted to tag with him, together with him. Then I started to tag. So, what I learned came from the older guys from my neighborhood. (RAKY – LUA, 2014, personal communication).

The broader the social environment becomes, the greater is the complexity when it comes to contingencies of reinforcement, with increasing variation in the distribution, value and timing – immediate or delayed—of reinforcers. Taggers just tagging at schools and in the neighborhood will not generate reinforcement from the broad social context; they will not achieve a high degree of recognition in the culture, and will not become “kings.” The environment demands that the tags must be visible, with many tags in high places, with beautiful and big letters. Transition from simple to complex contexts is an important characteristic in the adaptation of the individual.

It’s much more difficult to be famous in your neighborhood than at school. I am going to give my own example. In 1999, I was studying in a school close to my home, and at that time I was very young, 13 years old, I had just started spreading KEB (*Kabulosos Escaladores de Brasília*). There were many older taggers in my neighborhood, so it was very difficult to excel. At my school, I had notoriety; however, in my neighborhood I was only one more among many others, and what I had done up to that time was not enough to get a higher notoriety. When I enrolled in another school, in 2000, far from my neighborhood, the world opened for me. At that time, I had many tags around this school; I was famous at that school. Therefore, I was much more famous at my school than in my neighborhood, during my tagging career. In your own neighborhood, other taggers or our community in general know your weakness, your limitations; know your history; know who your partners are; know where you use to go, etc. You can change from one school to another every semester and become famous in each one. However, at the place where you live, you have to acquire respect, collectivity: It requires more things that are complex.

Fame depends on the environment where you live. If you live in a small city, it is easy to get famous. However, if we take Brasília as an example, the complexity of achieving fame in the whole city increases vastly. One reason is related to the distances between districts in Brasília. Then, for someone to get famous in the whole city like Brasília, for example, they have to be very motivated, otherwise you won’t be famous in the whole city. (BANDYT – KEB, 2014, personal communication).

Another comment on variation in behavior and contingencies:

Many difficulties exist. One difficulty is the police. As tagging is a crime, there is oppression, there is adrenaline, it is stressful, etc. Sometime you get some traumatic histories to tell, such as in the time that I fell from the roof, or when the cop forced to me to clean the tag using rocks. When you get famous, for example, guys from rival crews

start to want your head. Sometimes you tag on a wall that you had been wondering about through the whole week and then after three days have gone by since you tag, they clean the wall. So, for one get very famous you have to do many things, and depend on many others. (GASOL – KEB, 2014, personal communication).

Arranging Contingencies of Reinforcement: “Insiders” and “Outsiders”

The dynamics of taggers’ practices involve relationship with taggers (“insiders”) and with non-taggers (“outsiders”). While most individuals do not tag, they influence tagger’s culture in at least two ways: (a) they set the milieu that contributes to engagement on the graffiti scene (*i.e.*, in the transmission of the culture), and (b) they play a role on the maintaining and/or changing characteristics of the culture, even when direct contact does not occur.

“Insiders.” On one occasion, one tagger saw that others had tagged on a high building at the center of Brasília. Two days later, the tagger did his own tagging there. A month later, a Facebook page from São Paulo directed at the tagging audience published the picture of the tag on the building in Brasília.

With the advent of World Wide Web and social media like Facebook and Instagram, the communication between taggers increased vastly (e.g., Campos, 2012). On one Instagram page one can follow exchanges between taggers. In many pictures the page audience commented: “This guy is really a fast tagger”. Other examples are: “@... At this tagging, the guy really struck, very nice”; “Crazy stuff this tagging”; “Strong union, those are the kings”; “This is a work piece. For me among the best ones”; “This homie destroys. One of the best of the new generation”; “Disaster, they did not capture my name...” (This one was complaining about televised news that captured tags in the National Theatre of Brasilia, but did not show his own).

The same page on Instagram initiated a contest for awarding taggers in different categories, “The most famous 2015”; “The best climbing tagging”; “The best ground tagging”; “The best Master return 2015”; “The most famous girl 2015”. Followers of the page voted in each category, and the most popular taggers were awarded with a trophy symbolized by a spray can. In addition, the page published a post for the winner of each category. The social environment dispensed reinforcers depending on the effects of writer’s behavior, assuming that the likes in fact are reinforcers. The category of the “most famous” was the one in which received most likes (85 likes). Followed by the “best master return” (75 likes), “the best ground tagging” (71 likes), “best climbing tagging” (59 likes), and “the most famous girl” (40 likes).

These are examples on how the social environment provides contingencies for tagging behavior. Figure 2 shows an example of two different types of tagging from Brasília-DF, Brazil. One type has small letter, and another has big letters (each letter around two meters long). Different ways of tagging may be differentially reinforced, with a higher reinforcement magnitude (e.g., most people commenting about it) for the big letter style. If a tagger keeps tagging frequently (e.g., every day) for a given period of time, his pattern of behavior will be differently reinforced compared to a tagger who rarely goes out to tag. RAKY gives his own example:

Who understands graffiti praises my tags, they speak well of my work. In my opinion the best tags of Brasília are mine, because I practice all forms: I climb buildings, I tag with paint rollers, I take many different things. (...) According to many people, I am the one who is ahead of many others (...) you are more talked about; the more tag you have, the more fame you get. Here in Brasília, taggers usually tag using spray paint, they don’t tag



Figure 2. Upper picture shows tagging written in big letters style; each letter comprising almost 2 meters long. On the other hand, the lower picture shows smallest letters. Both types of letters are differently reinforced, the first type having a bigger reinforcement magnitude than the second one.

using rollers and latex paint as in São Paulo, and Belo Horizonte. Then, who is tagging by using roller and latex paint in Brasília is always a step ahead. (RAKY – LUA, 2014, personal communication).

Crews: The subsystems. Taggers usually tag with others, organizing in groups. When two beginners start to tag, they create their own nicknames to represent each of them, and they create a name to represent both at once. This kind of partnership is termed a crew. The name for the crew represents a group of people, rather than an individual. Along with the nickname, taggers tag either a name of the gang or just an acronym, showing that they are part of a specific group (for an example, see Figure 3). A given crew is formed either at school or in the neighborhood. Two or more friends might create a crew, or one initiator admits other members, normally friends. TYTANYO gives us his own example:

Well, we were very young at that time, but we were already taggers. As we had many friends, and I did not want to be part of other groups from a different place, we decided to create our own crew. After much insistence from DELO, who was motivating us to create a crew, I chose a name, which was *Detonadores Fantasmas do Além* (DFA). This crew, then, represented people from Taguatinga and Samambaia, DF (TYTANYO – LUA, 2014, personal communication).

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Figure 3. Nicknames and crew name are tagged along side each other. Nicknames are underlined in the figure. There are five nicknames because five guys went out to tag together. If a guy from a different crew would go out together with the taggers, they would also tag the name of the second crew, and so on.

In Brasília, crews started to appear in the early 1980s. Since then, crews have emerged all over the city. One crew founded in 1999 is the Legion United by Art (*Legião Unida pela Arte – LUA*). According to Abramovay et al. (2010), this crew became the biggest one of Brasília, comprising as much as 500 members. The first author of the present paper interviewed TYTANYO, one of the creators and the actual leader of LUA. He told about the LUA’s creation:

In the very early days, a kind of union among crews happened. We were young; we did not like this thing in the time of DFA. The crew had a little more than one year and we decided to unify our crew with the GDR. At that time, we were in the peak of fame. So, we would not become members of the GDR, and they would not become members of the DFA. So we tried to mix the acronyms, and both crews would like to have acronyms such as DFR (*Detonadores Fantasma de Rua*), GFR (*Grafitadores Fantasma de Rua*), GFA (*Grafitadores Fantasma do Além*), DDR (*Detonadores De Rua*) etc. One option was creating a new acronym/name, which would avoid conflicts among us. Among several names, the name LUA name came up. I cannot remember who suggested it but I embraced his idea, because it was very different from others, and because of the way it is spelled [LUA is moon in Portuguese]. Until that time, every crew used either (G) for *grafiteiros* or (D) for *detonators* as the first letters of the acronym. Then the biggest crew of Brasília (LUA) emerged, to compete with the GDF, which was biggest crew until then, and unequalled at that time. (TYTANYO – LUA, personal communication, 2014)

Since the creation of LUA, its participants have adapted to environmental demands: Their acronym has been replicated by many generations over LUA’s 16-year lifespan. LUA also achieved fame in Goiânia-GO when two LUA’s members moved there in 2004. Since then, the crew has grown, and now it completes its 11th anniversary in the capital of Goiás.



Figure 4. Taggers at a crew meeting.

Normally, members of the crews meet to party and hang out. In the social hangout, various issues are “put on the table”. In one of the meetings where the researcher participated, the members of the crew introduced themselves, one after another, by presenting their nicknames and the place where they come from. In a circle, crew members talk about issues including feuds between crews; places that should be tagged; solutions for the ones who have been beaten by others; what actions to take with the ones who have crossed out either a nickname of a member or the acronym of the crew, and the like. The leader of the crew talks first and then permits the others to speak. Figure 4 shows a group of taggers from LUA crew at one of these meetings in Brasília. Their faces are hidden for reasons of confidentiality. In these meetings, it is also very common to exchange letters’ styles between the members. While drinking beer, conversations about tagging go on and notebooks circulate.

Sometimes being part of the culture involves risks. Crews and individual taggers are frequently involved in tagging wars. Crossing out someone else’s name can trigger retribution, starting a “war” between the taggers or between crews. Tagging on a wall that already has many tags, or writing letters very different from the nearest social group can generate bad comments from peers. As Waclawek (2011) points out: “crossing out another writer’s work is disrespectful and should generally be avoided unless initiating a writing battle” (pp. 27-28). RUDNY tells us that:

It is shameful when someone comes and overcrosses you. It is disrespectful, because he doesn’t know what you had to do in the late night to get your name on that specific place, and this makes me very angry. In order to do a tag you must be there for some time. Sometimes a police car passes by you and you have to hide, not to mention the risk that

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you run of being arrested by the police, being beat by them very late at night. Then comes a clueless guy the next day, without experiencing what you had, and risks your name... Whoever does this deserves to be beaten all over the body (RUDNY – LUA, 2015, personal communication).

Figure 5 describes the relationship between the tagging social environment and a given tagger. The tagging social environment is mostly composed of crews. Taggers' own crews are commonly the main social environments for them. Crews are also constantly interacting with one another. Crews may change the contingencies for other crews, for example, when members overcross acronyms of somebody else's crew. It is also possible that the action of other crews works directly upon a tagger; when, for example, crew's members overcross a given tagger but not his crew.

“Outsiders.” Tagging is an environmental crime in Brazil. Under article 65 of law number 9.605 from 1998, the penalties for tagging are jail time from 3 months up to one year and a fine; from six months up to one year and fine if the place tagged is a monument that is protected through legislation with the intention of guarding it against mischaracterization or destruction. Underage defendants are judged under the Law for the protection of children and adolescents (Law Number 8.069 from July 1990; see also Todorov, 2005).

Jail sentences for tagging are rare. When the police catch a tagger, he is either sentenced to pay a fine to a needy institution or to community service; usually for three months. Informal consequences of being arrested are that the police punish the taggers physically such as painting the taggers (Daily_Mail_Reporter, 2014); beating them; breaking their fingers, and the like. In some cases, like in 2014 in São Paulo, police officers have killed the taggers (Filho, 2014).

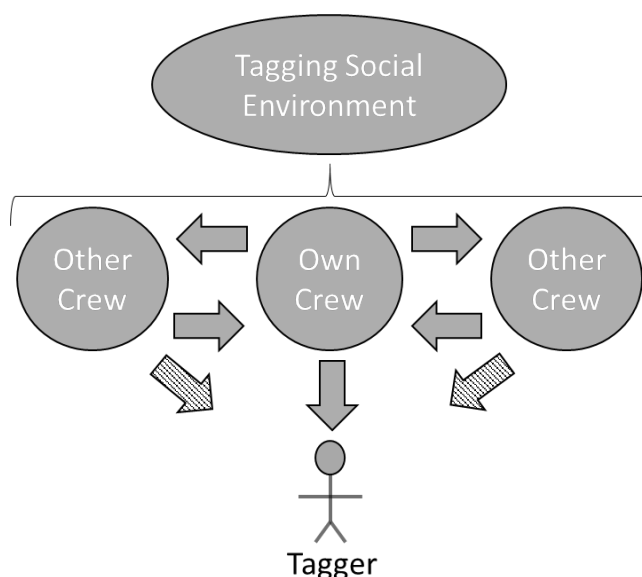


Figure 5. This figure depicts the relationship between a tagger and his social environment. The social environment for taggers is mostly composed of his own and other crews.

The correct procedure would be to take the tagger and lead him to the police station where there the tagger would sign a term, for which afterwards he will answer to the justice. However, what mostly happens is that the cops beat you too much; they break you all, paint you all over, and humiliate you in front of your homies, the other cops, and anyone that is passing by. Moreover, sometimes they also bring you to the police station where you also are beaten by the cops there, sometimes also spending the time in jail, and then answer to the justice system. (RUDNY – LUA, 2014, personal communication)

Mass media is another factor that may affect the tagging cultural practice. Brasília has a memorial dedicated to the former president of Brazil Juscelino Kubitschek; he is famous for the construction of Brasília. Newspapers from Brasília usually report every time somebody tags his memorial.

Laws, media, family, school, police, etc., may be seem as outsiders that may affect the contingencies for tagging practice. Figure 6 depicts this relationship. The arrows are back and forth because the tagging practices may also change the way the outsiders will interact with this cultural practice. Changing laws can change contingencies for taggers. Prohibiting the sale of spray cans to adolescents may change how taggers get hold of spray cans, or make them use different painting techniques. The newspaper *Correio Braziliense* recently reported that parliamentarians are discussing the possibility of increasing the penalties against property damage, which includes tagging. The enactment of the law may change the practice of tagging, depending on how the law is enforced (e.g., Sénéchal-Machado & Todorov, 2008).

Reports on the news (both written and audiovisual) generate huge visibility for taggers, serving as positive consequences. A group of taggers was caught by the police officers while tagging and a TV station recorded the happenings. One of the arrested taggers published the news in his Facebook page praising himself. The tagger said, “Good to be on television, paparazzo is looking for us”. Some comments are: “You are famous, I saw you on TV”; “Look, there is RAKY”; “Look you are like a magazine cover”.

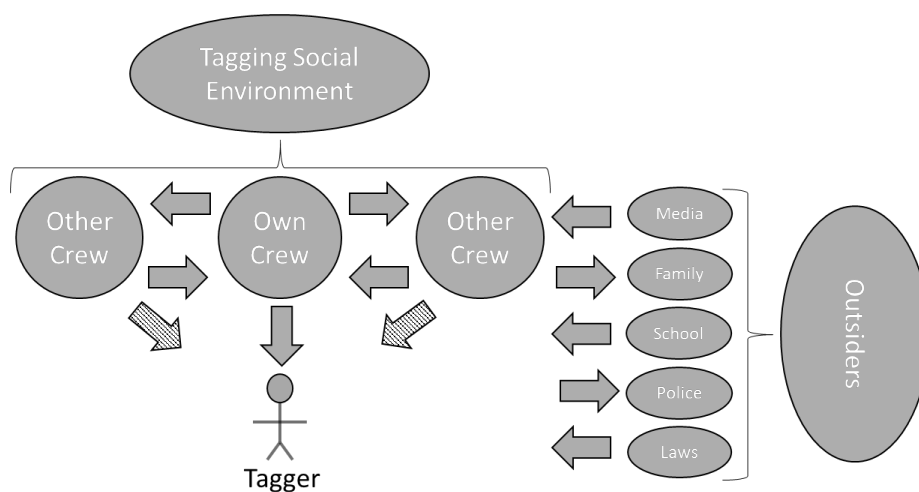


Figure 6. This figure depicts relationships between tagging culture and outsiders

TAGGING CULTURES

Discussion

In our introduction, we define cultures as complex adaptive social systems (pp. 68-69). To qualify as a culture and not mere societies or groups, the cultural practices must be transmitted over generations. The cultural practices go on even when members of the group have been replaced by new ones. Properties of the system must be of some inter-subjective nature, thus observable and relatively stable over time. The tagging culture is characterized by behavioral processes that may be described as (i) social reinforcement contingencies; (ii) reinforcement from physical rush and excitement; (iii) a behavioral evolution from simple to complex repertoires and contingencies, and (iv) a hierarchical structure and function.

Social reinforcement contingencies

In contrast to most other criminal acts, tagging gives no material gains. The strong social reinforcement contingencies that prevail are conceivably the most important variables in maintaining tagging behavior, in addition to the joy of seeing your own work of art. In the culture of tagging as everywhere else, different contingencies reinforce behavior differentially. Tagging on places that few people see produces no powerful consequences and is extinguished; tagging on highly visible places generates important social consequences and is repeated. Those who behave according to the rules improve their social status over time; achieve increasing fame, and gaining respect from the group. The cultural environment of taggers has the same behavioral technology as any other social community; some behaviors are punished/extinguished while others are reinforced (Skinner, 1953).

Two different conditioning features of learning are important here; rules and symbolic behavior are often established through social contingencies.

Rules. The principle of reinforcement describes that “When a response occurs and is reinforced, the probability that it will occur again in the presence of similar stimulus is increased” (Skinner, 1969, pp. 133-134). People are at all times exposed to this type of reinforcement contingencies, varying from simple to complex situations: When we insert a coin into a soda machine, we are often reinforced by the delivery of a can; saving some amount of money from one’s income may involve a series of behavioral chains that normally leads to the acquisition of a material reward (e.g., acquisition of a new car). Both kinds of behavior may be the result of different contingencies of reinforcement. One may learn how to get a soda can by getting a direct contact with this contingency via exploration in the sense that inserting a coin in the right place is directly reinforced by the delivery of a can. Another way is through rules. One may look at the machine and read its instructions which tells the individual how to behave in order to get the soda.

The same types of learning could be applied to understand how taggers are effected by its environment. One may simply be reinforced by writing something on the wall of a school restroom, without any previous experience with this kind of consequences. The kind of culture we are dealing with in this paper, however, shows that this kind of learning (learning by direct exposure to contingencies) is the exception rather than the rule. Newcomers to the graffiti culture are normally exposed to a set of rules that “specify the contingencies of reinforcement involving the occasions upon which behavior occurs, the behavior itself, and the reinforcing consequences.” (Skinner, 1969, p. 140). When a master says to a novice that he must tag in the whole city to get famous, he is specifying the situation upon which a behavior (in this case a chain of behaviors) will be

followed by certain kinds of consequences. When a newspaper publishes pictures of certain kinds of tagged wall, it may result in taggers making rules like: “if you tag on that wall it is probable that you will become a newspaper subject.” The rules may also be of negative types, as when a master teaches a novice that “if you overcross someone else’s name, you may get into trouble.”

Symbolic Behavior. The tagging social environment also establishes functional equivalence relations in their culture. People normally learn how to behave given a specific stimulation, such as the soda machine example. There are cases, however, in which physically different stimuli function in similar ways. Functional equivalence describes a situation in which two or more stimuli become functionally equivalent; this may include arbitrary stimuli. We say that a stimulus is functionally equivalent to other stimuli when the first can be substituted for the latter without altering their functions. The red traffic signal is equivalent to the word “stop” in the sense that they function in similar ways. The role of equivalence relations on cultures was discussed by de Rose (2016), Mattaini (2013), and others (e.g., Biglan, 2013).

For the present purpose, we may give some examples on functional equivalence relations in tagging cultures. Tagging letters are sometimes very different from letters of the Latin alphabet, although their sound, and their meaning, for example, are the same. Acronyms of a rival crew may be viewed as enemies. People may fight, even though they have never met before, only because they have acquired the meaning of enemies. This kind of relation is transmitted over generations if the war is maintained through time. As described earlier, taggers who tag all over the city may be considered as kings. Crew’s acronyms of king members will acquire the same function, and people who become a member of the crew achieve respect, because they are related to the crew name. The *Instagram* contest described in the Findings section is an example on how taggers organize contingencies that relates one stimulus to others. People voted to choose a king for 2015: The nickname, and letters of the chosen person as the most famous became naturally linked to the stimulus *famous*, for example.

Reinforcement from physical rush and excitement

Another characteristic of the tagging culture is that tagging generates strong physical sensations in the behaving individuals. Tagging in big cities like Brasília and Goiânia will be dangerous most of the time. Taggers risk being caught by a police officer or by civilian citizens, and they risk falling off buildings and bridges. Excitement can influence the way that people behave. Some of the interviewed taggers talked about the danger associated with tagging. Social consequences can depend on how dangerous a tagging situation is. One crew member from Goiânia once tagged in front of a police station; we can only imagine the risk and excitement involved, and he even got a news report about his feat.

Contingencies of excitement and risk comprise antecedents, behavior and consequences, and may well involve strong motivational operations (Laraway, Snyckerski, Michael, & Poling, 2003). It is a truism in behavior analysis that reinforcer preferences are diverse, idiosyncratic and dependent on individual learning histories. Beyond the unconditioned reinforcers that come as part of our biological make-up, there seem to be very few constraints on what kind of stimuli can evolve reinforcing functions. Investigations of reward mechanism in the brain and research about sensation-seeking personalities are relevant areas of research in psychology for our purposes. Affective neuroscience studies affect, emotion and motivation in humans and other animals by investigating functional brain mechanisms. One motivational factor is pleasure; there is strong evidence for distinguishable neurobiological mechanisms involved in the experience of pleasure.

TAGGING CULTURES

According to Berridge and Kringelbach (2008), reward has three components; liking, wanting and learning. *Liking* is “the actual hedonic impact of a reward”; *wanting* is conscious and non-conscious desire, and *learning* is “associations, representations and predictions about future rewards based on past experiences” (p. 458). “Careful studies are needed to tease apart whether activity in a particular brain region belongs most to the ‘liking’, ‘wanting’ or learning sub-components of reward and to understand how components are assembled by larger limbic systems into an integrated reward system” (Berridge & Kringelbach, p. 458). Depending on the goal of your analysis, all these components could be the primary focus. When taken into the context of cultural selection of tagging behavior; the last two stand out as the most relevant. Environmental events affect wanting and learning is continuous; neurobiological mechanisms are in many ways beyond the reach of interventions to change cultural practices. For the present paper, we are interested in describing how stimulus situations that would generate strong avoidance behavior in most individuals (e. g., climbing tall buildings in the dark to perform a behavior that is classified as criminal, and of which there is extremely salient evidence once the behavior has been successfully performed, with a clear and present danger of being apprehended by potentially violent police) can be intensely attractive and provide reinforcers of incomparable intensity. This requires that we have an idea of how reward systems in the brain can work.

When tagging in locations with high risk of discovery and apprehension by the police and/or risk of physical injury due to altitude or moving machinery, the individual who is doing the tagging will commonly experience intense physical sensations, generated by changes in brain levels of dopamine and serotonin (according to a T-shirt by marriedtothesea, “Technically, the only things you really like”). We understand the mechanisms underlying these sensations far better now than we did in the heyday of research on sensation-seeking personalities

The noradrenaline system, originating in the locus coeruleus, affects arousal and influences anxiety and irritability. It regulates energy levels, and mood elevation or depression, and also influences cognition. The serotonin system also influences anxiety, irritability and mood, and in addition impacts on our impulsivity. The serotonin system also regulates appetite and sexual behavior, and is involved in how we respond to aggression; primarily located in the dorsal raphe nuclei. The dopamine system overlaps with the two other neurotransmitter systems. As the dopamine system is involved with the reward systems of the brain, it regulates feelings of euphoria—a number of drugs, like cocaine, stimulate the release of dopamine. Other stimuli that lead to euphoric feelings also affect the dopamine system, like good food, sexual stimulation and release, and luck when gambling. The dopamine system increases its activity when we have performed something that makes us proud or experienced something that makes us happy, or if we can have a good meal when we are hungry. The interaction between these systems is complex and only beginning to be understood.

The role of the prefrontal regions of the cortex is not well understood, but it is most likely important, because of what is termed the executive function of this region (Brodal, 2013). Intense activity in the reward system is generally considered one of the most important factors in substance addiction (Berridge & Kringelbach, 2008; Norbury & Husain, 2015; Norbury et al., 2015). In addition to the activities of the reward system, strong physical sensations associated with the release of epinephrine and norepinephrine will serve to intensify the experience of excitement and risk in the risky and stressful situations that taggers regularly place themselves in.

In our understanding of the contingencies of excitement and risk, the individual performing dangerous behavior will experience intense physical sensations based on activities in the nervous and hormonal systems. These sensations will function as immediate reinforcers. On subsequent

occasions; recalling the sensations and anticipating similar experiences in the future can also function as motivational operations.

Behavioral evolution from simple to complex repertoires and contingencies

The last point cues us to a third feature of the tagging culture, which is the evolutionary process involved in tagging. Beginners on the scene that have climbed a building are rare. Taggers acquire a behavioral repertoire through time and experience. Novices don't even know how to write tagging letters' style, and have to be taught how to perform. Once they have learned how to write in a notebook, they have to learn how to do the same on a wall using spray cans. It takes some time until a tagger is able to execute good writing. Transition from one stage (novice) to another (master) involves a series of contingencies of reinforcement. Transition from simple to complex contexts is an important feature in the adaptation of the individual. From experimental research, we know that to get a rat to work on a fixed-interval schedule (FI) with high duration, the transition from continuous reinforcement (CRF) to high FI has to be done gradually. If the rat is placed on a high FI just after the CRF, the response rate will not be maintained (e.g., Ferster & Skinner, 1957). Previous conditioning histories, motivational levels, and prevailing contingencies are all examples of how environmental conditions shape and maintain behavioral repertoires through transitions. Many researchers have agreed on the fact that peer recognition is very important in maintaining tagging behavior, and some argue, for example, that "The graffiti writers must transcend their very self, continuously challenge their limits. In order to do this, they will provide proof of their character and merit by risking their lives (...)" (Campos, 2012, p. 160). All of this seems to be in accordance with our analysis here. However, these are all abilities that taggers develop throughout their contact with peers and their non-social environments. For example, school's incapacity to arrange opportunities of success for "problematic" students may enhance the value of recognition from peers (Mattaini, 2013). Hence, depriving people of recognition in some contexts may enhance the chances of young people to engage in certain kinds of behavior (e.g., tagging), because achieving such consequences become more valued (see Mattaini, 2013, pp. 56-57).

The capability to overcome difficulties, as pointed out by Campos (2012), may depend on one's motivational level, or in other words, how the environment changes the value of consequences. What also seems to be very important here is how the social tagging environment generates techniques to develop and support taggers' abilities to overcome aversive situations. Some masters, for example, seems to develop ways to support novices to become more sophisticated in the use of spray paints or in the acquaintance to write letters appropriately. They also provide powerful positive consequences (incentives to write despite adversity) that may override concurrent aversive consequences. Successful transitions may depend on many environmental variables and on one's motivational state. To understand a tagging career, we need to understand the web of relations and conditions that act upon their behaviors, and how the behaviors act upon the environment.

Hierarchical structure and function

Hierarchical structure is also part of the contingencies involved on tagging. Beginners want to advance in the culture; they want to be kings. Kings in the culture get a lot of respect from peers. One example is the contest performed by the taggers on *Instagram*, cited previously. The one who

was the most famous (the one who had tagged more than his peers) was the one who got the most respect from peers. The same may be said about leaders. A crew leader has the power to arrange contingencies for his subordinates. A tagger with good writing skills has the power to influence how other taggers will design their letters. The higher your position in the culture, the more influence you will have on your peers. New taggers must earn respect in the culture. At first, they are “nobodies”—no one on the scene recognizes them. Veterans have respect, fame, and high status on the scene (see Cooper & Chalfant, 1984; MacDonald, 2001), and approval from them is important for beginners. Novices on the scene observe how the context works, so modeling and social reinforcement are involved, in a strict hierarchical structure with performance-based status for the members.

A constructional approach to changing cultural practices

Concern with social issues within behavior analysis is not new (see, for example, Skinner, 1948). However, the effective scientific application of behavioral principles for cultural change is still evolving. Mattaini (2013) proposes to call the science of cultural understanding and change *behavioral systems science*. Behavioral systems science is primarily focused on understanding and changing the environments of groups of people within cultures. The principles of the science of behavior; its selectionist approach, and its methodology constitute the basis for the application of this science (e.g., Biglan, 1995; Biglan, 2015; Biglan & Glenn, 2013; Mattaini, 2013; Wilson et al., 2014). Goldiamond (2002/1974) proposed a constructional approach to address social problems. This approach is based on empirical behavioral principles, and can be usefully combined with behavioral systems science when group-level interventions are relevant.

The constructional approach is primarily focused on constructing new repertoires to replace problem behaviors. Taking tagging as an example of social problem, the application of the principles for changing this cultural practice should be focused on the construction of alternative environments to replace the practice, rather than trying to eliminate misbehaviors by the use of suppressive procedures (e.g., punishment). Mattaini (2013) summarizes Goldiamond’s position thus:

His rationale, which has been widely accepted by behavioral scholars since that time, was both ethical and practical. On the ethical side, he believed that, of necessity, suppression relied on practices like threat and punishment, which often risked the violation of human rights (as is common in prisons and some other institutions). On the practical side, he concluded, as had B. F. Skinner before him, that the data demonstrated that constructing new patterns supported by arranged or preferably natural reinforcement was (a) more acceptable to people and (b) more likely to result in lasting change, whereas suppressive strategies did not take away the inclination to act and therefore were ever fragile. (p. 62).

The constructional approach requires a thorough analysis of the actual conditions that maintain the prevailing practices. To intervene in a given cultural practice, one must identify the practice and set up appropriate methodology derived from the analysis of functional relationships between relevant variables. The intervention must include recording procedures, and procedures for quantitative/qualitative analysis of the effects of the planned changes. As behavioral systems science is guided by the output data generated by the interventions, changes in interventions must be made whenever the data tells that such changes are needed (Mattaini, 2013).

Based on the qualitative data presented in the present work, we will use an analytic tool from the work of Biglan (1995), and explored by Mattaini (2013), which we believe will help to provide insights of possible interventions. Using Biglan’s (1995) approach, Figure 6 would be translated into Figure 7 (Figure 7 is based on Figure 3 from Mattaini, 2013). Figure 7 shows interlocked relationships between three subsystems. Tagging cultural practice establish relations with other system’s practices in which characteristics of a given system can strengthen/weaken and/or serve as a context (in the sense of discriminative stimulus or motivational operations) for characteristics of the other. For example, the consequences of publishing news about tagging may serve as motivational operations for the tagging practice as well as do the consequences for educational practice. Figure 7 shows only some examples of interlocked system relations. As depicted in Figure 5 and 8, this web of relationships involves other subsystems.

The constructional approach also focuses on the actual repertoire of the targeted participants for planning changes. If social workers intend to help taggers construct new repertoires, they should consider the existing repertoires, some of which are depicted in Table 1. Table 1 also shows how a program that encourages graffiti production may create an alternative environment to support new repertoires. Graffiti production involves a series of collaborative pieces that may be tied together by a contextual background (Grody, 2007). Pieces are a more elaborate and stylized kind of graffiti: “pieces are more elaborate efforts that involve highly personalized and modified letterforms ... Pieces may take anywhere from an hour to weeks to complete.” (Grody, 2007, p.18).

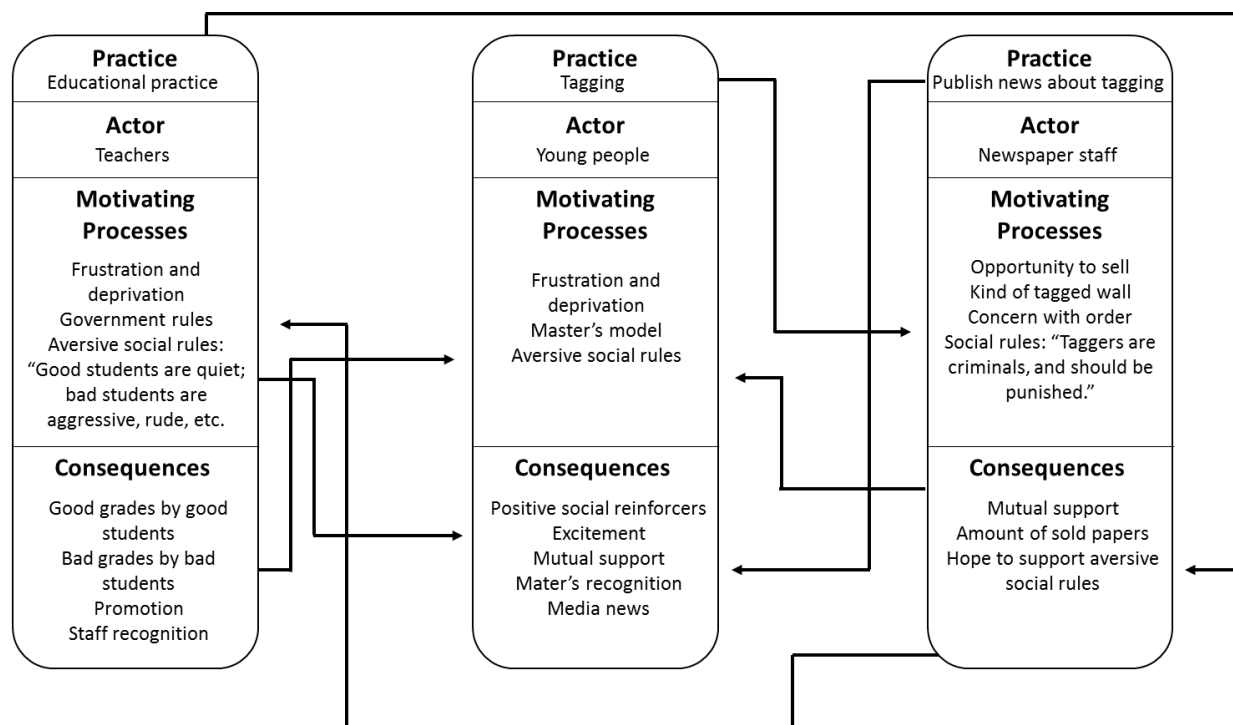


Figure 7. Interlocking system relations among three different systems (tagging practices, educational practices, and publishing news practices). Based on Mattaini (2013).

TAGGING CULTURES

Table 1 shows a matrix with some important properties of tagging culture, and possible interventions directed at each of these properties. Taking “Evolving from simple to complex behaviors” as an example, we can see that behavior of individuals gradually changes through the

Table 1. *Matrix identifying the cultural properties of tagging behavior, examples, contingencies, potential interventions, and possible outcomes*

Cultural properties of tagging behavior	Examples	Contingencies	Potential interventions (Graffiti Workshop)	Possible outcomes
Socially transmitted reinforcers	By peers. By social media on internet. By exposure in the mass media. By prestige / admiration because of membership in the crew.	Positive reinforcement	Master’s positive reinforcement for colorful graffiti pieces Exposure of graffiti pieces on mass media Reinforcement from community members	Social reinforcement capable of maintaining resistance behavior that is more acceptable by general society
High risk-high impact	Climbing buildings. Tagging at high risk for being observed. Helping each other keeping an eye out police or others. Painting during the night.	The magnitude of positive reinforcement increases when risk increases. Matching law, Negative reinforcement by avoidance, and escape behaviors	Incentive graffiti production on buildings facades (e.g., Graffiti artists, Os Gemeos, painted on a Scottish Castle).	“Adrenaline” would serve as powerful reinforcer capable of maintaining graffiti production repertoires.
Evolving from simple to complex behaviors	Starting with chalk and crayons Graduating to sophisticated paintings. Starting painting at hidden places. Graduating to prestigious spots. Starting alone, continuing with	Shaping Intermittent reinforcement of	Invite young kids to participate on graffiti painting workshops. This would encourage them to involve with graffiti production as early as possible. Instruct masters to incentive novices	Artistic production will be established in young people as an alternative for tagging. Master will potentially

Hierarchical distribution of power	friends, graduating into crews with leaders	possible increasing magnitude	to participate in graffiti workshops. Master would also be trained to paint graffiti productions, which they will potentially serve as graffiti instructors.	become community leaders for young people. Their leadership may influence how youngsters chose between tagging and other kinds of graffiti.
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tagging career. Shaping contingencies are in effect and gradually change the behavior of the individuals. An intervention directed at this property should aim to disturb the shaping system as early as possible. This could be done by arranging alternative activities that program consequences for behavior that may be compatible with tagging, but does not generate its deleterious effects. Another strategy could focus on other properties, for example, on “socially transmitted reinforcers.” One contingency of this property is the mass media as a delivering mechanism providing positive reinforcement for tagging behavior. Publishing news related to graffiti activities will most likely increase the amount of positive reinforcement graffiti produces, which, in turn, may affect the frequency of graffiti production.

Frequently, tagging culture members are marginalized young people even before their engagement with this culture. Their involvement with tagging brings them strong alternative reinforcers for their reality (see Aspholm and Mattaini, in press). Tagging practices constitute a resistance movement in the sense that this practice offers an alternative, and often a threat, to general societal structures. Tagging creates a supportive environment in which young people can feel empathy, respect, acceptance, and experience other meaningful relations that they rarely experience in their “normal” life. This environment is similar to those created within the context of gang cultures, as described by Aspholm and Mattaini (in press). As tagging culture promotes those relations, this culture may empower its members to handle their problems without external control (broad social context through its agencies of control). This empowerment must be carefully preserved when trying to intervene in their culture. The current repertoires are relevant parts for constructing alternative environments.

Some examples show how and why alternative environments do and do not work. In 2012, a tagging group from Sao Paulo were invited to participate in a workshop held in Germany, as part of the 7th Berlin Biennale. This invitation was an attempt to recognize tagging as art. The group’s participation was to be restricted to showing their art and discussing it theoretically in the format of a panel presentation. The taggers illegally climbed the church which hosted the event, and made their marks. The curator of the Biennale then said “(...) it was a disappointing entry” (Wainer, 2012). Cripta, the nickname of one of the invited taggers, argued that “It is impossible to have workshop on tagging, because tagging is transgressive and only happens in the street context” (Wainer, 2012). He also commented on the fact that the organizers had to call for the police, “The curator, who call himself a revolutionary person, took our action as personal. It is a political Biennale, organized to criticize the system, but they had to appeal for the system to stop us” (Wainer, 2012). This intervention shows the problems of not considering natural reinforcers as powerful sources of control.

TAGGING CULTURES



Figure 8. Reproduction of *Os Gemeos* in Instagram

The Sao Paulo's city government has historically tried to stop graffiti by painting many walls with gray color paint. The last attempt was made in the beginning of 2017 by the recently elected mayor. The mayor wants to regulate the art in the city,

I am totally in favor of urban art, including muralists and street artists. But I think there needs to be discipline. We cannot have graffiti murals in the whole city. Otherwise it establishes a connection with those who think themselves as doing art. And it isn't art. Tagger is not an artist. He/she is an aggressor (...) the fact of having a museum implies having a suitable and safe environment, so that people can admire the art. The idea is to create large areas in the city, so they can express and invigorate their art, so you can have a coffee, buy a T-shirt printed with the graffiti work, and create sustainability for graffiti artists and muralists. (Ribeiro, 2017).

The mayor's answer to a question from an interview conducted by the newspaper *Estadão* is a clear example of a top-down kind of intervention. His idea is to intervene in the tagging culture to satisfy the societal needs ("so you can have a coffee, buy a T-shirt"), disregarding the characteristics of the culture and repertoires of the artists themselves. *Os Gemeos*, two worldwide recognized graffiti artists, still protest through their art despite the fact that they are the two of the most recognized graffitists in Brazil. Figure 8 is a picture taken from their Instagram page which shows a tagger character who is writing "Congratulations SP [Sao Paulo]!! Showing once again disrespect with the art!!" They drew this character on the recently covered gray painted wall in the city. Their post is dated January 25th, two days after *Estadão* had published the mayor's interview.

The attitude of *Os Gemeos* shows that recognition, the pleasure of painting and economic opportunities are necessary, but not sufficient to sustain alternative behavior to tagging. Mattaini (2013), and Aspholm and Mattaini (in press) suggest alternatives to violent cultures through bringing the behavior in contact with *activism*. They point to the possibility of arranging favorable environments to promote engagement with activism without the harmful side-effects of gang membership or, in our case, tagging related behaviors. Aspholm and Mattaini argue for the importance of supporting practices within the community context to sustain activism. The opportunity to engage in alternative practices that produce reinforcers equivalent to those produced by tagging behavior is of major importance in a constructional approach.

Communities must look at taggers current repertoires in order to bring those behaviors into new forms that will develop more desirable effects to both the community and taggers themselves. For example, taggers may produce powerful incentives by acting actively through graffiti production. The way in which *Os Gemeos* contra-acted towards the mayor action is an example. They used a more social acceptable form to protest against the mayor's politics. This activist behavior can potentially bring the interest of other social sectors. These sectors may then support their activism, and enhance the probability that the same behavior will occur in the future. The supporting practice of these sectors may then create connections with others sector (e.g., media) which will spread the supporting practice with potential effects on the mayor's interests. Taggers who learn how to make colorful drawings can use this tool to bring political issues into context in a way that can develop political awareness in their community, influence voting practices, attract politicians' attention, and so on. This all means that the more "natural" consequences (as shown in Figure 7) are arranged for taggers while trying to develop new forms of behavior, the more effective the intervention will be.

In sum, the constructional approach as a whole favors introducing incompatible activities that can generate sufficient reinforcers of a quality that makes the undesirable behavior the less preferred. Aspholm and Mattaini (in press) suggest that recruiting and training youth to activism in positive causes—anti-violence, environmental campaigns, political activism in a broader sense or directed towards specific causes—may serve as replacement activities for undesirable behavior, such as gang activities and violence. The potential contingencies of reinforcement would be strong on social approval and a sense of group coherence and belonging. While reinforcement from physical rush and excitement could occasionally be available during demonstrations and rallies, it is important not to substitute political hooliganism for the brawling and violence that is part of the tagging culture. The social reinforcement for patiently and incrementally working for distant common goals might maintain peaceful behavior, but the sheer thrill of danger would be lost. Lu (2008) cites a considerable body of research that suggests that martial arts training can serve as a source of physical thrills while simultaneously promoting self-control and non-violent attitudes; this could be introduced as a socially acceptable substitute. Organizational work is an excellent way of developing more complex repertoires of useful skills, and afford rich opportunities to rise in hierarchies, contingent on doing good work and being loyal to the objectives of the organization.

Constructing alternative environments for tagging is not an easy task. Interventions that are based solely on the targeted practice (e.g., tagging practice) seems to be ineffective. In order to construct alternative environments for tagging, social workers should consider the webs of relationships that are established with the targeted practice. Below we summarize a few kinds of behavioral programs that may help to intervene in other systems such as school and family.

Behavioral Programs to Intervene in Cultural Practices

A systematic review showed that The Good Behavior Game (Barrish, Saunders, & Wolf, 1969) and subsequent variations on the program can function as a behavioral inoculation against behavior disorders and social problems (Embry, 2002). The program has been found to be effective across cultures (Nolan, Houlihan, Wanzek, & Jenson, 2014), and has long-term benefits. The game is a low-cost classroom intervention that is easily taught and implemented, does not interfere with scholastic activities, and enhances the learning environment. Targeting group contingencies, the game avoids singling out specific offenders and rewards collective and pro-social behavior. The Good Behavior Game is a prime example of the kind of intervention that could prevent recruitment to the tagging culture.

According to Embry, 2011, a “behavioral vaccine is a repeated simple behavior that reduces morbidity or mortality and increases wellbeing” (p. 1). In addition to The Good Behavior Game, Embry cites various examples of community-oriented interventions that show good effects. In our context, the Triple P-program (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009) is of special interest, with a multi-tiered intervention intensity and low-threshold accessibility. Triple-P involves training parents to deliver consistent and predictable positive reinforcement, and provides non-coercive technology to ensure compliance with social norms and parental guidelines.

Embry (2011) suggests a public health-approach to prevention science. Public health can be adopted as a fruitful framework for interventions against tagging and its concomitant deleterious social effects. Embry compares this approach to vaccination programs, which target whole populations instead of individuals. Suggested reasons for adopting this approach include the fact that anybody in a group can be at risk; the whole population is protected; public health-like interventions are cost-effective, and avoiding the specific targeting of individuals or groups reduces the risk of stigmatization—stigmatization reduces prevention, because it reduces participation (p. 4).

“These types of preventive strategies can be delivered as a matter of course or choice, rather than limiting access by families, schools or neighborhoods based on “rationing model” of prevention in which only those who have positive “screening” at an individual, family, school or neighborhood level receive prevention services” (Embry, 2011, p. 3; see also Embry & Biglan, 2008).

Dishion, Spracklen, Andrews, and Patterson (1996) showed that delinquent behavior follows a matching law distribution; any program that contributes to enriching the reinforcement schedules for pro-social behavior patterns relative to the schedules for deviant behavior can reasonably be expected to be effective, provided the actual contingencies come into contact with the desirable repertoire.

Conclusion

In this paper, we have described certain properties of the cultural practice of tagging, and supplied qualitative data from interviews and participant observation as illustrations to some of the interpretative points we make. One important feature of the tagging culture is the high impact of social reinforcers. Another feature is the shaping of increasingly sophisticated artistic expressions together with increasing magnitude of selecting forces. The more society in general condemns a tagger’s action, the higher is his status in the taggers hierarchy. We offer a behavioral

perspective, giving examples of tagging practices, maintaining contingencies, possible interventions and potential outcomes. The interventions may be implemented separately or simultaneously. The effect on the tagging behaviors would probably be most effective if the interventions were implemented simultaneously, but demonstration of the relative power of each intervention would be reduced. The effect of each intervention might also be demonstrated by a natural experimental approach.

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