

Oxytocin, Empathy and Human Enhancement*

Francisco LARA

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ABSTRACT: This paper considers, firstly, to what extent the administration of oxytocin can augment the capacity of empathy in human beings; and secondly, whether or not such practice ought to be allowed. In relation to the latter, the author develops an argument in favour of this intervention by virtue of its consistency with the belief that, if a therapeutic treatment is to be considered acceptable, it is essential that it increases the well-being of those affected and that it does not compromise the autonomy of the patient. Having rejected several objections related to the nature of this intervention, the author finally questions its morality on the basis of a concern with its universalizability.

Key words: moral enhancement, empathy, Neuroethics, morality, oxytocin.

RESUMEN: El artículo considera, en primer lugar, hasta qué punto la administración de oxitocina podría incrementar la capacidad de empatía de los seres humanos; y en segundo lugar, si dicha práctica debería ser permitida. En relación a esto último, el autor desarrolla un argumento a favor del mencionado uso de la oxitocina en virtud de la coherencia con nuestra creencia de que para considerar aceptable un tratamiento terapéutico este debe aumentar el bienestar de los afectados y no atentar contra la autonomía del paciente. Después de rechazar varias objeciones sobre la naturaleza de este tipo de intervenciones, el autor las cuestiona éticamente por las implicaciones de su universalización.

Palabras clave: mejora moral, mejoramiento moral, empatía, neuroética, moralidad, oxitocina.

Advances in the neurological sciences have provided fuller knowledge of the human brain and the systems that operate it. Recently researchers have discovered new properties of a hormone that, functioning also as a neurotransmitter, is synthesised in the hypothalamus and released in many areas of the brain and the rest of the body. Called oxytocin, it appears to be crucial for pair bonding as well as for social attitudes and conduct. In particular, it is believed that this hormone may be largely responsible for empathy among human be-

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ings. In fact, the possibility of synthesising the hormone artificially, together with recent experiments of nasal and blood administration, have raised expectations of curing certain psychological disorders characterized by an acute lack of empathy, as for example in the case of autism. However, enthusiasm has gone beyond its therapeutic use as some suggest that it ought to be used to enhance the empathy of any individual.¹

In this article, I first seek to clarify as far as possible to what extent oxytocin could enhance empathy of human beings. In order to do so, I first define the term «empathy» and then, in light of this definition, review the main scientific findings concerning the effects that oxytocin exerts on empathy. The final aim is to evaluate ethically the possible use of oxytocin for enhancement.

1. The effects of oxytocin on empathy

Although «empathy» is a polysemic term (Batson 2009), we can distinguish two basic meanings. One would be mere emotional contagion, referring to the most rudimentary form of empathy, which we might call «empathic distress». This would consist of a mechanism by which, on noting suffering in others, or on knowing about it, we feel the same or similar somatic processes begin to be activated as in the sufferer, (feeling, for example, anxiety or compassion for the pain of another). This is a form of what Hume called «sympathy». In many cases, this mechanism of contagion is facilitated by an instinctive imitation of bodily postures (Chartrand and Bargh 1999), facial expressions (Ekman 1992; Ekman and Davidson 1993), and emotional tone when talking to others (Neumann and Strack 2000) or, in the case of newborns, of the cries of other children (Simner 1971). The emotions aroused by the contagion, whether of concern, anxiety or uneasiness, entail a personal distress that, in a desperate attempt to get away from it can, in the case of proving less costly than physical or psychological escape from the disturbing situation, lead to involvement in order to alleviate the pain of the other (Batson 1987; 1991; Batson and Oleson 1991). «Empathic» concern for the bad situation of others, then, in the case of emotional contagion, is impelled exclusively by self interest.

However, because in this work we are interested in the possibilities of oxytocin as a moral enhancer and because morality, by definition, requires the adoption of an impersonal and, in some way, altruistic perspective, the term «empathy» alone will hereafter refer to a less spontaneous and less selfish psychological disposition. This disposition is normally composed of two differentiable elements. First of all, an exercise of imagination (something like what differentiates Adam Smith's «sympathy» from what David Hume calls «sympathy»). The result is also to end up feeling like the other person, or having compatible sentiments, but as opposed to the previous meaning of empathy, this common feeling is now the result of an active attempt by the observer to enter the mind of the other. And this can be done by imagining how the other is thinking and feeling, based both on what the other says

¹ Some authors emphasize the urgency of debating the ethical permissiveness of using oxytocin for the purpose of moral enhancement because they argue that it is indirectly already being done. The psychology and moral behaviour of many people who take pharmaceuticals, such as the contraceptive pill, glucocorticoids to treat asthma, or anxiolytics such as buspirone, are affected already by their effects on oxytocin (Levy et al. 2014, 8-9).

and does, and on one's knowledge of their character, values and desires; or imagining how one would think and feel if one were in the other's place. This latter way of entering the mind of the other by means of imagination is what some authors have called «projective empathy» (Darwall 1998).

There is a second element characteristic of this sense of empathy. It is commonly known as «compassion» (Hume 1711-1776; Smith 1759) or «sympathy» (Darwall 1998; Preston and de Wall 2002). The previous element is not enough because if it were only a matter of entering the other's mind, empathy would be consistent with the indifference of pure observation or even the cruelty of sadism (Darwall 1998, 261). It all depends on why one is interested in the other's perspective and in the case of this kind of empathy or sympathy one is interested in the welfare of the other. It is not therefore a view of the first person but the impersonal point of view from which one imports as much as the others (Darwall 1998, 263). That is, the aim is to feel on the behalf of the other (Zahn-Waxler and Robinson 1995), and because of that, this way of experiencing empathy is usually accompanied by an altruistic motivation of reducing the distress of the other person (Batson 2009; Batson et al. 2009).

Recent discoveries suggest that empathy, as interest in others, is caused physiologically in large part by oxytocin (Zak et al. 2007; Reyes and Mateo 2008; Singer et al. 2008; Rodríguez et al. 2009), possibly due mainly to three properties of this substance, as discussed below (Barraza 2010).

a) OXYTOCIN ATTENUATES THE OVEREXCITEMENT PROMPTED BY EMOTIONAL CONTAGION

Studies indicate that to have empathy for others, we should be able to modulate the intensity of emotions triggered by the suffering of others. Thus, it has been shown that individuals with less alteration in heartbeat frequency react less to the stimulation caused by the pain of others but, as opposed to those who suffer empathic distress, have a greater capacity to attenuate their response to the excitation stirred by such stimuli (Eisenberg et al. 1991), favouring socio-cognitive abilities (Heinrichs and Domes 2008; Churchland and Winkielman 2012). On the contrary, if such excitation is not attenuated, the rise in physiological stress could lead, as occurs with empathic distress, to an affective reaction that seeks to relieve the suffering of others but only for personal comfort.

In this sense, it has been demonstrated that this capacity of some people to moderate their emotional response to the pain of others is possible thanks to the anxiolytic effect of oxytocin. Different studies have demonstrated that the exogenous administration of this substance, on the one hand, lowers the level of stress hormones such as cortisol (Bartz and Hollander 2006), and on the other hand that it also attenuates excitation, reducing the activation of the amygdala in situations provoked by stress, such as seeing faces expressing fear or pain (Kirsch et al. 2005) or, in still greater measure, the witnessing of anti-social behaviour (Petrovic et al. 2008; Baumgartner et al. 2008).

Nevertheless, other studies show that oxytocin can also intensify anxiety towards an unforeseeable threat (Grillon et al. 2012). This suggests that the anxiolytic property of oxytocin cannot be the only factor explaining its influence on empathic behaviour. Below I will examine a second property of this hormone that also accounts for this influence.

b) OXYTOCIN FACILITATES TAKING ON THE PERSPECTIVE OF OTHERS

As stated above, a peculiarity of empathy or empathic concern is that the suffering prompted by knowing the suffering of others is partly the result of putting ourselves in the place of others, imagining their emotional state (Wispe 1986; Davis 2005). And what about the physiological aspect? Although oxytocin intensifies emotional but not cognitive empathy (Hurlemann et al. 2010), it could nevertheless facilitate the processing of information that is required to take on the perspective of another. The above-mentioned property of attenuating the impact on us by the suffering of others facilitates our attention. Furthermore, some studies have highlighted that, with oxytocin, subjects more readily identify the emotional states of others (Bartz et al. 2010; Guastella et al. 2010), recognize emotions when viewing photos only of the area around the eyes (Domes et al. 2007), increase gaze, especially toward the eye region (Guastella et al. 2008), more accurately recognize positive emotional expressions (Marsh et al. 2010), and, in the case of autistic individuals, improve the acquisition of social information by a better comprehension of affective language (Hollander et al. 2007).

c) OXYTOCIN FACILITATES ALTRUISM

Finally, it is important to note that the adoption of the perspective of others who are suffering is usually accompanied by an altruistic intention to help avoid that suffering (Batson et al. 1981; Zahn-Waxler and Radke-Yarrow 1990; Batson 1991; Batson et al. 1997; Hoffman 2000; Preston and De Waal 2002; Davis et al. 2004; Davis 2005; Goldman 2006; Brooks 2006; Lamm et al. 2007; De Waal 2008; De Vignemont and Frith 2007; Vais et al. 2009; Slote 2010).

There is ample scientific evidence that such an altruistic intent is closely related to the involvement of oxytocin in the neural systems that reinforce social behaviour (Bartels and Zeki 2004; Insel and Ferland 2004; Dolen et al. 2013). Thus, behavioural studies using variants of the prisoner's dilemma have revealed that exogenous oxytocin can directly promote conduct that requires trust, reciprocity, sacrifice (Zak et al. 2005; Kosfeld et al. 2005; Morhenn et al. 2008), and generosity (Zak et al. 2007).

EXPLANATION OF STUDIES WITH DISAGREEING RESULTS

Despite the tests made on the link between oxytocin and empathy, there are also experiments that report the asocial or anti-social effects of this substance. This discrepancy could be ascribed to the fact that oxytocin would have positive effects in terms of empathy and social abilities only in certain contexts (Akitsuki and Decety 2009; Bartz et al. 2011; Bos et al. 2012). Thus, for example, such effects would strengthen when the individual needs to interact with acquaintances, trusted ones, or family members, but would weaken considerably in situations of competition (Shamay-Tsoory et al. 2009), uncertainty (Declerck et al. 2010), institutional inefficiency (Zak 2008) and interaction with strangers (De Dreu et al. 2010). Similarly, the empathic effectiveness of oxytocin appears to depend heavily on the peculiarities of the individual. Thus, its effects would be meagre or negative in the social sphere for those who have less ability to put themselves in the place of others (Abu-Akel et al. 2015); for those who, whether for genetic reasons (Rodrigues et al. 2009) or for mani-

fested behaviour (Barraza 2010) are less willing to show empathy; for those who are the most socially adept (Bartz et al. 2010); for those who have been brought up with less parental care (Carter 2003); for persons with aggressive tendencies (DeWall et al. 2013); or simply for men rather than women (Hurlemann et al. 2010).

If we accept these experimental results, the studies in favour of and against the empathic effects of oxytocin can be reconciled through the hypothesis that such effects would appear only under certain circumstances and individual peculiarities. Now, it must be considered whether in these contexts it would be correct to enhance human empathy by the administration of oxytocin.

2. *Should oxytocin be used to enhance humans?*

To consider whether it is ethical to increase empathy by means of oxytocin, we should distinguish firstly between two ambits in which this capacity could be augmented. On the one hand, that of individuals who, for disease or incapacity, notably lack this faculty; and, on the other, that of individuals who possess it to a normal degree.

With respect to the first ambit of application, that of individuals who for anomalies in their empathic capacity behave asocially or anti-socially, the current literature on oxytocin shows certain optimism on the possibilities of using this hormone as a treatment for such anomalies. That is, it is believed that oxytocin can boost social cognition in the autistic (Domes et al. 2007; Hollander et al. 2007; Guastella et al. 2010) in addition to facilitating trust and reducing social anxiety under conditions such as social phobia and borderline personality disorder (Kosfeld et al. 2005; Bartz and Hollander 2006; Heinrichs and Gaab 2007).

We would not expect this type of medical treatment, like any other, to provoke reticence in people so long as the following two requisites are fulfilled.

- *Requisite of overall well-being.* There should be major indications that the treatment will provide a considerable improvement in the well-being of all those affected, especially the recipient, but also his or her family members and society in general. To a certain extent, this requirement is equivalent to the classical bioethical principle of beneficence.
- *Requisite of autonomy.* The treatment should be accepted previously by the person receiving it or, in the case of incapacity, his/her guardian. This requisite is equivalent to the bioethical principle of autonomy or self-determination of the patient.

In this light, the core of my argument concerns the question as to whether, for consistency, we should not also accept the use of oxytocin for healthy individuals (i.e. with normal levels of empathy) when these two requisites are fulfilled, which I consider basic for approving its use in individuals who are ill (i.e. with significantly deficient empathy).

However, before assessing whether cases of empathy enhancement (and not of therapy) would fulfil these requisites, a possible objection to this argument should be considered. The objection consists in the claim that these two ambits (therapy and enhancement) are simply two qualitatively different spheres and that they are therefore not comparable.

This objection, however, faces the challenge of explaining how and why therapy and enhancement are so distinguishable (Juengst 1998; Daniels 2000). In fact, normally these

two ambits are not clearly delineated. Medicine, for example, despite essentially addressing health, is composed of many specialities (nutrition, immunology, reproduction, aesthetics, etc.), which do not share a common aim of curing diseases. If medicine is, as some might believe, to restore and compensate for the natural loss of a certain function (as opposed to enhancement, which would consist of augmenting a certain function), then we should, for example, grant priority to the administration of a growth hormone to a child with a height problem caused indirectly by a contracted affliction to one with the same problem but simply because of short parents. Why should the former deserve priority over the latter? Why should the administration of a growth hormone to overcome the same problem be qualified as treatment in the former case and as an enhancement in the latter case? (Daniels 1992). Given such difficulties, it seems appropriate to discard such unjustified conceptual and normative differentiation and accept that the decisive criteria to administer treatments as well as enhancement interventions should be whether or not the well-being of the individual and others who may be affected is improved. Both children with height problems, in principle, have the same need not to suffer the disadvantages of being extremely short and therefore also have the same rights to be helped. Ultimately, the issue is to choose a criterion based on well-being (or the reduction of disadvantages) that fits the definition, in its broadest sense, that the World Health Organization has long given to health: «a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity» (Preamble of the Constitution of the World Health Organization, 1946).

Therefore, without substantial reasons to differentiate qualitatively between biological interventions that are meant to cure and those that simply improve the state of health, we now can with consistency subject the use of oxytocin in (empathically) healthy people to the same test that we would apply to individuals with anomalies in their empathic capacity. This test, as seen above, consists in appraising whether or not the requisites of overall well-being and autonomy are fulfilled.

It seems clear that most cases of enhancement of the empathic capacity would comply with the requisite of overall well-being. Firstly, given the link between oxytocin and parts of the brain associated with reward (Baracz and Cornish 2013), those with improved empathy usually experience a positive subjective sensation whenever they help others. Secondly, to this pleasing sensation, we can add the reduction in the misery and suffering (due to violent inter-group conflicts and deficient sanitary and dietary conditions) that may result from altruistic behaviour. This latter valuable benefit has moved some authors to argue that the enhanced empathy and the consequent altruism, more than an option, should be an obligation. They argue that, in the current world where information on terrorism and the fabrication of weapons of mass destruction are more easily available and against which it is difficult to find a common defence given the excessively nationalistic character of our democratic systems, enhancing empathy should be mandatory (Persson and Savulescu 2012).

In this article, however, I do not engage with this discussion. Rather, I focus exclusively on those cases of enhancement which, in addition to meeting the requirement of overall well-being, fulfil the requisite of autonomy—that is, they correspond to the will of the recipient of the intervention. However, can we imagine situations in which people would reasonably consent to the manipulation of their own biology with oxytocin in order to improve the situation of others? We might think of individuals who, for the influence of their social setting or as a result of a personal reflection, usually think that they should do more for others but that at the moment of truth, surely for emotional deficit of physiologi-

cal origin, invariably find an excuse not to do so. They know perhaps that by techniques of psychological self-control they could someday manage to behave the way they think they should act, and feel more comfortable with themselves. But they are also aware that this may require excessive and futile effort; they might even fear that if they succeed, they will never provide the help that they feel they should, i.e. as a result of truly putting themselves in the place of another.

This sketches my main ethical argument, based on consistency, to allow the use of oxytocin to enhance empathy in human beings where it promotes global well-being and does not undermine personal autonomy. Below, I examine four possible objections to my stance.

I. DOES ENHANCEMENT THREATEN OUR PERSONAL IDENTITY?

Those who might submit to intervention with oxytocin to acquire more empathy could ask themselves whether they would no longer be themselves. And they might then be thinking of two different things. On the one hand, that they would lose their capacity to be autonomous, that they themselves would no longer be responsible for their decisions. That is, with the intervention, they would end up doing certain things, such as empathising more, not because they really wish to but because they have been modified to do so. What sustains this view is that people, on having resorted to biological intervention to change their motivation, will have placed the source of their decisions and their behaviour outside themselves. They would cease to be free agents that make their own decisions by being converted into some sort of puppets moved by the creators of and the effects of the interventions to which they were submitted.

The main reply to this objection, I believe, would be to adduce that, in terms of autonomy, there would be no significant differences between individuals who are morally enhanced by novel biological methods and those enhanced by traditional ones. Traditional changes in the normal moral development of an individual are also the result of the intervention of others. Moral education, like other forms of socialization, is a process of indoctrination which not always uses discursive methods, even when the objective is for educated people to finally be capable of thinking independently. To educate and to intervene biologically can be seen as two ways of externally facilitating the autonomy of individuals, helping them in different ways to overcome the cognitive and motivational limitations that prevent them from matching their own conduct to the values or preferences that they should reach by independent deliberation. In this sense, it could be added that they would achieve more autonomy with the biological intervention because, as opposed to methods of moral education, if undertaken in adulthood, the intervention would result from a decision made freely and not from a unilateral decision of an instructor or the society at large (Dees 2011).

Similar arguments can be used to respond to the objection that could be posed to this type of human enhancement by virtue of a second way of interpreting why, with such intervention, people would no longer be themselves. It could be adduced that when the degree of empathy of a person is modified, the personality is altered and therefore the individual's identity. This objection makes sense only from a conception of the self that seems flawed. Really, we do not believe that we are born with a way of being that must be upheld forever. We believe that either we become ourselves as we acquire experience in life or else that these experiences help us to discover our genuine self. With both readings, i.e. of self-realization or self-discovery, biological interventions, especially if reversible, such as the

one under discussion, in which at any moment we can quit taking the oxytocin, can be useful instruments rather than impediments in the quest for that identity. If people resort to a moral enhancement with oxytocin, they will do so normally out of dissatisfaction with their own way of being, to become more of what they seek or envisage to be. Furthermore, in the case of enhanced empathy, its usefulness to construct or discover a more authentic I becomes especially evident. Those with an empathy deficit normally have a limited understanding of themselves because, unable to put themselves in the place of others, they are incapable of seeing themselves as others see them, nor can they therefore construct their own proposals for a personality change based on their empathic views of others. This could be ameliorated thanks to the potential of oxytocin to facilitate the adoption of the perspectives of others.

II. IS EMPATHY MORALLY NECESSARY?

By virtue of the requisite of overall well-being, one of the reasons in favour of improving empathy with oxytocin would be its effectiveness to attain a better world in which people offer more help to those in need. This would be possible owing to the effects of this hormone to understand better and thereby consider in equal measure the perspectives of others. This means thinking and working impartially and, finally, being more moral. However, for some critics, if what is at stake is to be impartial and thereby help others, this can be achieved without having to evoke empathy.

For some of these critics, it would suffice to have firm determination to do what reason tells us is correct, and reason will say that we all have the same right not to suffer. Therefore, to be moral and to attend others does not require any emotional state, or empathy, by which we try to do the correct thing after feeling like others (Goldie 2006; McGeer 2007; Maibom 2009; Harris 2013). In this sense, John Harris (2013) argues that the most promising methods of moral enhancement are parental education, peer group guidance, social and personal example, and ethical reflection. He is also willing to accept biomedical interventions that, by altering our cognitive capacities, would make our moral decisions more moral. All of these ways of moral enhancement would share, unlike those that seek to change motivation, the belief that the important thing is to have good reasons to behave morally, rather than to feel in a certain way (172).

However, as Hume said, reason is «perfectly inert and can never either prevent or produce any action» (Hume 1711-1776, 3.1.1, 458). To know what is right and why is no guarantee of being motivated to follow through. We need emotions that move us to do what reason demands of us. This becomes very evident in situations where our will is weak (Persson and Savulescu 2013, 128-130). Sometimes we know perfectly well what to do but either we are not motivated enough to do it or an irresistible temptation leads us to do something else. And this irresistible force not to do the right thing does not always have the form of putting personal wishes before them, but it can also take the form of strong negative emotions that prevent or corrupt our moral decisions. T. Douglas (2008, 230-233) provides the aversion to those of another race and the impulse towards violent aggression as examples of these counter-moral emotions.

Harris, however, resists the moral relevance of emotions. He argues that reducing morality to a question of having the right emotions would mean the death of morality. There is no virtue in doing what is right, says Harris. In defending that the important thing is to

improve our emotions we turn the morality into something automatic, unconscious and unintentional, resulting in the agent not being responsible. Moral enhancement would then be somewhat similar to the threat of punishment, which may reduce immoral behaviour but without actually making individuals more moral (Harris 2011; 2013, 172).

The problem with Harris and other rationalists is that they present a very simplistic understanding of moral judgment. Psychology and neuroscience show that moral decision making is very complex: cognitive and deliberative aspects are important, but where intuitions and emotions also play a very important role. Empirical evidence shows that moral judgments use the same parts of the brain that are also activated when emotions occur in us, suggesting that emotions play a role (Crockett et al. 2010). A rationalist is unable to account for the fact that people often form moral judgments without being able to give reasons.

Therefore this objection against the enhancement of empathy as morally unnecessary might have force only, in my view, if it accepts at least that emotions or sentiments are essential to action. This position is adopted, for example, by Jesse J. Prinz (2011a; 2011b), who holds that morality is based essentially on a strong sense of disapproval towards certain deeds, which translates as our disposition to react with anger when others commit wrong deeds and with guilt if we ourselves do so. This author adds that we can have this feeling of disapproval without putting ourselves in others' shoes. If an act means harm, we need not empathize with the victim to feel revulsion towards that action. In my view, Prinz could be right that empathy is not necessary every time we disapprove of an action, since once the emotions have been associated with a type of deed, we cannot recognize the wrong of this without thinking of someone suffering. Nevertheless, I believe that empathy is crucial in the process by which we take on feelings of disapproval and, particularly, *moral* sentiments. Prinz denies this and contends that at an early age we acquire the capacity to behave morally only by the mechanism of imitation and emotional contagion, which later can be modulated by fear of punishment.

However, this is an excessively simplistic explanation of personal development of morality. Imitation and emotional contagion are important foundations for morality because they provide a basic sense of social connectivity and mutual recognition of coexisting with others «like me» (Meltzoff 2007). Nevertheless, for morality to evolve, we must understand others progressively better, imagine how they feel, how they perceive our actions, and whether they approve or not. To conceive of moral rules and be guided by them, we must be able to imagine the emotional reactions of others in the light of such rules under the same circumstances. For this, imitation and contagion must be complemented and transformed by more sophisticated ways of comprehending the mind of others, especially when they are not in sight or their mental states do not correspond to simple emotions (Rochat and Passos-Ferreira 2008). These cognitive abilities, as we already know, form an essential part of empathy and are those that are developed normally in a child of between four and five years of age, leading them to begin to become involved in cooperative and altruistic activities and to start to perceive antisocial and aggressive behaviour as negative (Batson et al. 1981; Batson 1991; Eisenberg 2000; Hoffman 2000; Decety and Meyer 2008; Rochat and Passos-Ferreira 2008).

The relevance of these abilities linked to empathy in moral development becomes evident when we note the adverse effects of not having them. The clearest case is that of psychopaths (Hare 1999). Those who do not have this deficit, normal people, in their first

months of life learn, by imitation and emotional contagion, to associate that their behaviour makes others cry with feeling bad, which in the future inhibits them from engaging in violent or aggressive behaviour. Whereas, with time, this develops into a more elaborate capacity to adopt the perspectives of others, it invariably relates the suffering of others with morality.² In this way, due to both contagion and empathy, children start to distinguish between moral rules, such as we should not injure others, or the merely conventional ones such as we should not go into public naked. Thanks to the capacity of empathy, we begin to understand that only the moral ones can be justified emotionally because only they protect others from what we assume they do not want, for example to suffer. Psychopaths, by contrast, lacking this capacity, are incapable of distinguishing moral rules from conventional ones (Blair 1999; Blair et al. 1995).³

A more complex case is autistic individuals, who for some authors could be an example of individuals who appear to acquire a comprehension of moral rules despite exhibiting a deficit of empathy (Nichols 2004; McGeer 2007; Prinz 2011b). It is true that autistic individuals respect moral rules, but empirical studies suggest that the moral rules that the autistic follows are perceived by them as conventional rules. To properly detect moral violations requires the correlation of two facts: rule breaking and the unjustified suffering of someone. The autistic apparently fail to make this correlation; they usually describe incorrect actions more in terms of violating rules than in terms of causing physical or emotional damage to others (De Vignemont and Frith 2007; Hobson et al. 2009). It is true that, in a certain sense, they can show emotional responses towards the suffering of others, but this would not exactly be empathy. It would not be, both because they lack the cognitive capacity to put themselves in the minds of others (Blair and Jame 2005) and because they invariably consider the world around them from an egocentric viewpoint (De Vignemont and Frith 2007).⁴

III. DOES EMPATHY IMPLY PARTIALITY AND FAVOURITISM?

Some authors hold that despite the link of empathy with pro-social conduct, we should dispense with it as a key element in morality because it is usually accompanied by a tendency

² This explanation of psychopathy as a lack of empathy that impedes understanding what morality is can be found in both rationalist and sentimentalist conceptions of moral judgments and understanding. An example of the former is John Deigh, who argues that in order to understand the rational restrictions and consistency principles of morality one must be endowed with a «mature empathy» that allows the agent to be able to imagine people's feelings of frustration which could result from their actions and thus understand that their interests constitute reasons for action (Deigh 1995). J. Blair (1999) and Shaun Nichols (2002), from a sentimentalist position, argue that the lack of moral understanding of psychopaths responds to a reduced automatic response to and recognition of fearful and sad behavioural manifestations.

³ Empirical evidence that psychopaths can not distinguish between moral and conventional rules is inconclusive (Aharoni et al. 2012). Some authors have even argued that psychopaths understand morality and moral rules perfectly (Raine 2013). Although psychopaths may know what is right, I think that these positions could accommodate the thesis that they are not motivated to act accordingly, and that the absence of empathy might explain their motivational deficit.

⁴ In Decety et al. (2012) the results of an empirical study are shown that tries to demonstrate to what extent moral reasoning implies a complex integration of affective and cognitive factors in which empathy has a prominent place.

to be partial in treating others (Hoffman 2000; Stürmer et al. 2005; Prinz 2011a). Several experiments have demonstrated that we tend to be more empathic and caring with those who are in our same ethnic group (Brown et al. 2006), and that we are predisposed to give biased treatment to those who have moved us to empathize with them at the expense of others far more in need (Batson et al. 1995).

All this is corroborated physiologically by experiments made on the function and potential of oxytocin. It has been demonstrated that this substance fosters a protectionist attitude only for members of our own group at the same time as a strongly defensive attitude against strangers (Declerck et al. 2010; Sheng et al. 2013), which is expressed at times as patent racial favouritism (De Dreu et al. 2010; 2011; Sheng et al. 2013), as an excessive conformity to the group itself (Stallen et al. 2012), and even a dishonest component, without hesitation, to benefit the group (Shalvi and De Dreu 2014).

This objection is very serious. Birgit Beck (2015, 235n) has even held that these experiments, demonstrating the effects of oxytocin on favouritism, explain the decline of the initial hype about this substance as a means of moral enhancement. However I believe that this objection is not insurmountable. As a motivational state strongly determined by the emotions, it is normal for empathy to prove distorted, turning a blind eye to rational demands such as impartiality, but this does not mean that we should dispense with it. And we should not do so because empathy, in essence, is the prototype of morality itself. To adopt a moral viewpoint implies, in principle, to transcend our own perspective and consider also the beliefs, interests, and sentiments of all those affected by an action. In this light, equalizing demands to help all those who suffer —regardless of their singularity, degree of rationality, or capacity to express themselves— appear much more binding. In the development of this empathic predisposition to put ourselves in the place of another is the key to avoiding both selfishness as well as an exclusive rationalist morality in which the rules do not admit certain reasonable exceptions that are comprehensible only if we put ourselves in the shoes of another.

Now, what the accusation of the tendency towards partiality should in fact serve is to warn us that we should not trust emotional reactions as the only source of moral attitudes. Thus, if our aim is not to lose sight of impartiality, the intensification in empathy should always be accompanied by cognitive and reflective correctors to prevent us from arbitrary discrimination. Examples of these correctors would be the request that the feelings of approval or disapproval underlying our moral judgements should have as their objective the *types* of actions and not *who* are normally affected by the actions (Prinz 2011a, 228); the insistence on the fact that strangers share beliefs, values and complex emotions with us (Leyens et al. 2001); the demand that each of us should always be willing to justify why we morally consider some individuals and not others; or the acquisition of all the extra information that permits the one who empathizes to generate more precise representations of the mental state of the other, especially if that individual belongs to another group.

In the specific case of oxytocin, some authors argue that its effects on favouritism could be mitigated in circumstances where the individual, rather than considering membership in a group in reduced terms, is able, perhaps with reflexive measures such as those mentioned, to understand that his group is that of humanity as a whole (Levy et al., 2014, 10). Moreover, according to the experiments made in this regard, it appears that there are indications to believe that the administration of oxytocin could be efficient also, in certain contexts and with appropriate modulation, to bolster some of those corrective mechanisms of the

tendency of empathy towards partiality. It could, for example, incline the enhanced individual to place more importance on certain socially or morally relevant information (Bartz et al. 2011), such as the other belonging to a stigmatized group (Tarrant et al. 2009; Decety et al. 2010), leading that individual to empathize more with the stranger. It could serve to open the eyes so much that some researchers believe oxytocin could even induce the Israelis to empathize more with the Palestinians, the main victims of the conflict between the two sides (Shamay-Tsoory et al. 2013).⁵

IV. THE NON-UNIVERSALIZATION OF ENHANCEMENT AND THE FREE RIDER PROBLEM

The possible objections that we have considered regarding the enhancement of empathy using oxytocin could to a certain extent be refuted, as we have seen. But, there is an objection that, in my opinion, is unassailable.

That is, in reality, such intervention would not make the world better since the individuals with heightened empathy would wind up showing solidarity in contexts in which they should not. A greater sense of solidarity on the part of only those who request enhancement would, for example, only lead those moved by self-interest to feel even less pressure to be reciprocal with others. We would thus be helping to spread the behavioural strategy of the «free rider», that of benefiting from a good without doing one's fair share or without reciprocating for others' sacrifices. Free riders would have no incentive to pay with their own effort the gains that they had received from others who had acted out of altruism.

Someone might argue that despite this implication, if we look at the global consequences, the increase of empathy, even if only of those who asked for it, would always mean progress. It could be argued that by increasing the pool of individuals with empathy, relations between empathic individuals would necessarily increase, and relations between empathic and non-empathic individuals would be reduced. If we compare this new situation with the previous one to the moral enhancement, we could see that there would be more collaboration between empathic ones, and fewer occasions of non-collaboration or exploitation of the free riders with respect to the empathic ones.⁶

This objection would make sense if we only had two types of individuals, the empathic or altruistic and those who are not empathic at all: the free riders or selfish. But as the sociobiologists have verified, it is more plausible if to this socio-psychological typology we add a third way of being with respect to collaboration and morality: that of the limited or reciprocal altruist. Such an individual would be willing to collaborate with others as long as they

⁵ Another similar criticism to the moral enhancement by means of increasing of empathy is to point out possible counterproductive effects, such as antisocial and immoral decisions. Thus, for example, if substances such as serotonin or oxytocin cause people to be led by rapid responses such as trust and generosity, we may prevent negative responses to injustice, where they are morally required, even using violent aggression. In relation to this, see Harris and Chan (2010); Dees (2011); Chan and Harris (2011); Harris (2013). However, the objection may fail if the enhancement interventions are reserved for exceptional cases. In other cases, the proper solution would perhaps be not to undergo any neural interventions and permit, as is usual, a certain degree of violent aggression in extreme situations. See Lara (2017, 167-168).

⁶ I am grateful to one of the referees of this journal, who evaluated a previous version of this article, for suggesting this possible objection.

respond to his intention to collaborate. He would like a world of full collaboration between all but sees it as impossible because of the behaviour of some. It is presumed that those who voluntarily accepted their own improvement to become empathic were of this group. The total altruists would not need it and for the selfish it would be something clearly irrational. So what I maintain is that, finally, if the enhancement is voluntary, the situation will be worse for everyone. Even if cooperative relationships between empathic people would be increased, because there would be more of them, there would also be a considerable increase in cases of lack of collaboration and in cases of exploitation. For the free riders it would be much easier and tempting to abuse others because, apart from having more unconditional altruists that would be easy to take advantage of, there would be less reciprocal altruists reducing the number of negative responses to the abuses of the free riders. In addition, an increase in the number of total altruists might also cause an increase in the number of free riders. This is likely as some limited altruists, outraged by the impossibility of solving the free-rider problem, may be tempted to choose to adopt the free rider's strategy rather than to request an increase in their own empathy.

In short, by increasing the empathy of only one part of society, i.e. those who voluntarily request it, what we would be promoting with this enhancement is a strategy of behaviour, the altruist without conditions, by which we would indirectly succeed only in accentuating the spread of selfishness of others and its negative consequences for everyone.

Someone might respond that with the enhancement of empathy, precisely what is intended is to eliminate the limits that our biology has always imposed on altruistic and prosocial conduct that is beneficial to everyone. However, this would really be achieved only if the enhancement of empathy acquired a universal character. Since, given our requisite of autonomy, only those who give their consent would improve in altruism with this intervention, presumably the free riders (those whose change in motivation would most increase the general well-being) would never request such intervention, given the many advantages they would gain for themselves with greater empathy in others. Evidently, we could avoid this and its disastrous consequences only if the intervention were obligatory for everyone. However, to question the requisite of autonomy implies weakening the argument of consistency with which, as we have seen, we could justify this type of improvement and dispense with a crucial principle by which to guide our ethical evaluations.

3. *Conclusion*

By virtue of all the above, I propose that the use of oxytocin to enhance empathy cannot in itself be rejected on ethical grounds by the same token that it is not ethically reproachable to be used to cure certain hereditary anomalies of empathy deficit. In both cases, if the treatment is administered with the consent of the recipient, such measures, in principle, offer clear benefits not only in terms of well-being but also in the reduction of suffering for the treated as well as for the rest of society. Furthermore, reasons have been presented here to refute the accusations that empathy is morally unnecessary, that it leads necessarily to a biased treatment of others, and that it is a menace to personal identity. Nevertheless, I have also raised a stronger criticism to voluntary enhancement of human empathy. This consists of predicting that this measure would favour a more selfish conduct by many of those who would not seek enhancement. In short, the problem is that the more empathic

that only certain people become, the more unrestricted and harmful to everyone would be the behaviour of those without empathy. This is a problem that could be solved only by demanding universal enhancement, but this is not possible unless we renounce the fundamental requisite that enhancement intervention must always have the consent of the person enhanced.

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FRANCISCO LARA is a Lecturer in Moral Philosophy at the University of Granada, Spain. His research interests during the last years were about conciliation between personal values and ethical consequentialism and about ethical consideration of animals. Currently, he is working in different topics of bioethics and neuroethics. Francisco is the principal researcher of a funded project about artificial intelligence and moral enhancement.

ADDRESS: Departamento de Filosofía I, Edificio de la Facultad de Psicología, Campus Universitario de Cartuja, 18071 Granada, Spain. E-mail: flara@ugr.es