

## Prosocial/Altruistic Behavior: Socialization of Emotional Experience Psychobiological Research Review

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### Abstract

Altruism is (cognitive, emotional, and physical expression) defined as the concern for the positive welfare of another. Emotions are ubiquitous in all our lives. The information that they afford to each of us—about others and ourselves—is invaluable. The aim of this study is to review the socialization of emotional experiences for developing prosocial behavior especially altruism, and the role of related factors/states such as attachment, empathy, and identification in development of this behavior among children. The study highlights the state of current knowledge of the ways in which children learn from others about aspects of emotions—how the development of their emotional experience is contributed to by others' emotion-related expressiveness, behaviors, and beliefs by socialization. To meet this central goal, we must first define what we mean by the essential concepts such as: emotional experience, empathy, attachment, identification, and moral emotions, because they play an important role in developing the prosocial/altruism and moral behavior. After detailing this central construct, we move to a consideration of the socialization of these emotions for prosocial behavior, and the role of biological factors that influence on this complex state. Finally, some recommendations have been provided from this psychobiological review.

**Keywords:** *Prosocial behavior; Altruism; Emotional experience; Biological factor; Socialization*

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### Introduction

Altruism is generally understood to be behavior that benefits others at a personal cost to the behaving individual. However, within evolutionary biology, different authors have interpreted the concept differently, leading to dissimilar predictions about the evolution of altruistic behavior. Altruism and selfishness, like free will and determinism, seem to be polar opposites. Yet, as with free will and determinism (Dennett 1984), the apparent incompatibility may be challenged by various forms of compatibility. The word "altruism" and associated words such as "selfishness", "spite" and "cooperation" are familiar to everyone as descriptions of human conduct. The same words are used routinely by evolutionists to describe the behavior of nonhuman species. At second glance, however, the relationship between the evolutionary and everyday meanings becomes more complex (Cronin, 2012). In particular, evolutionary definitions are supposed to be based solely on fitness effects. If a behavior increases the fitness, of a recipient at the expense of the actor's fitness it is termed altruistic

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regardless of what the actor felt or thought as it performed the behavior. By contrast, everyday meanings depend largely on the motives of the actor. If we see someone benefit others at the economic, social or material expense of himself, we may still regard him as selfish if we think that he derives pleasure from his action or if he regards his action as part of a broader scheme in which he, the actor, stands to gain. Definitions that are based on the actor's motives will hereafter be called psychological definitions, (Batson, 1991).

A fundamental problem in founding an evolutionary ethics is to explain how Cooperation and altruism can emerge during evolution. The evolutionary principle of "the survival of the fittest" seems to predispose individuals to selfishness. Yet all ethical systems emphasize the essential value of helping others.

The past decade has seen an explosion in research and concern in prosocial and altruism, and for good reason-not only is altruism beneficial, but neuroscience and genetics are now providing useful insight and understanding, it's the best of all world- modern breakthroughs can allow us to help others by studying the very phenomenon of altruistically helping of altruism, (Davidov Zahn-Waxler, Roth-Hanania, Knafo, 2013).

"Weak" altruism can be defined as behavior that benefits more to another individual than to the individual carrying out the behavior. "Strong" altruism denotes behavior that benefits others, but at one's own cost. Both are common and necessary in those highly cooperative systems, which Campbell calls "ultra social". ultra sociality refers to a collective organization with full division of labor, including individuals who gather no food but are fed by others, or who are prepared to sacrifice themselves for the defense of others. In the animal world, ultra social systems are found only in certain species of insects (ants, bees, termites), in naked mole rats, and in human society. In spite of the many parallelisms between human society on the one hand, and insect or mole rat societies on the other hand, their development was caused by quite different mechanisms, (Barry, & Wentzel, 2006).

Some researchers (Killen, Smetana, 2013) proposed that, the prosocial behavior of altruism as a hierarchy of types that involve a progressively expanding sense of "self". The hierarchy extends from the biological realm to the human sociocultural realm, a transition both continuous and discontinuous. The biological realm extends into the cultural realm, but the cultural conditions the biological and introduces new factors that can increase the scope of empathy. In the lower realm, altruism is analyzed by evolutionary theory, where alternative ideas such as kin selection. This includes either sufficient association (in technical terminology, "assortment") among helpers such that benefits of altruism go disproportionately to other altruists or other group-level selection mechanisms that favor groups with more altruistic (Bartal, Decety, & Mason, 2011).

Zwick and Fleteher (2014) propped 7 level of altruism: life altruism, sentence altruism, species altruism, group altruism, interaction-based altruism, kin altruism, and self-interest. They guided the discussion of altruism by these general hierarchical, according to the phenomenon of altruism that extends from the biological realm to the human soci-cultural realm.

Pathological altruism might be thought of as any behavior or personal tendency in which either the stated aim or the implied motivation is to promote the welfare of another or others. However, instead of overall beneficial outcomes, the altruism instead has irrational and substantial negative consequences to the others or even to the self. When discussing a pathological altruist, motivation becomes important. A working definition of pathological altruists (besides the obvious: a person who engages in pathological altruism"), might then be: " a person who sincerely engage in he/she intends to be altruistic acts, but who harms the very persons or group he/she is trying to help, often in unanticipated fashion; or harms others; or irrationally becomes a victim of his/her own altruistic actions. Thus, a con artist who solicited funds for orphan children, when his real intention was to spend money on himself, would not be a pathological altruist but the person who gave to the con man could be a pathological altruist. (Batson, 1991).

### Definition of Concepts

**Prosocial/altruistic behavior:** What are prosocial behavior and altruism? The behavior characterized by the following states: (1) Terms are used interchangeable, (2) describe actions that are voluntarily carried out, (3) is helping behavior with no expectation of

reward, (4) The psychologists and philosophers traditionally defined altruism as behavior intended to help others, (5) without expectation of external reward or self-reward, (6) "Born Saints", Prosocial behavior as an inborn tendency (7) "Feeling good about yourself" -Prosocial behavior related to mood and empathy (Bowles, 2006).

Emotion is any mental state characterized by various degree of feeling and usually accompanied by motor expression, often quite intense. It is the subjective state may be pleasurable, threatening, frightening, or of some other nature. Emotions are usually directed toward specific person or event and involve widespread physiological changes, such as increased heart rate and inhibition of peristalsis. The common emotion are anger, elation, fear, horror, shame, love. Types of emotion include cold, conditioned, defensive, derived, esthetic, ictal, and primary, secondary, uncanny. Emotional expression can be defined as the 1-Behavioral display of emotions by such means as smiling, laughing, and gesturing, 2- The somatic changes, such as rapid heartbeat and muscular tension that constitute as integral aspects of emotional reaction (Frijda, 1986).

**What does emotional experience consist of? There are two questions. First:** what in general, is the nature of emotional experience; what distinguishes it from other modes of experience and enable the subject to identify his or her experience as " emotional". **Second:** What, specifically, is the nature of the different emotional experiences; what distinguishes the experience of one emotion from that of another and enables the subjects to identify his or her experience as one of anger, sadness, and so forth. (Eisenberg, 1986). There are three type of theory have been advanced to answer these questions. They have been called central, peripheral, and cognitive. In dimensional approach, Cluster analysis of results of researches led to a reduction to 100 items, and after presentation to new group of subjects, to a final list of 60 items. The dimensions represented in the following table:

Angry	-
Anxious	Depressed
-	Irritable
Elated	Arrogant
Conscientious	-
Tired	Indifferent
	Timid

(Sonnevill., et al. (1981)

Empathy is the subjective awareness of another person’s thoughts and feeling and their possible meanings. Identity of feeling and thought with another person exemplified by statement “ I know how you feel”. The emphatic concern can be defined as the feelings of caring and sympathy for another with whom the person identifies (Hoffman 2000).

Empathy is connected with attachment. In dictionary of psychology (Corsini, 2002) Attachment defined as a connection of one part to another. In socialization, it is a tendency of young animal to become closely and physically identified with certain older individuals. Infants seek their primary caregivers as a step in establishing a feeling of security. The attachment behavior, in animal, is the behavior demonstrated by one animal of “wanting” to be near another one, wither the animal is of the same or of a different species. A survival need may explain such attachment. In human, attachment is a special relationship that develop between infant and the primary caregiver (usually mother), develop from birth onward and include the infant trying to be near and calling for the caregiver, and displaying separation anxiety if thwarted. Attachment defined as a tendency of some people to identify with certain older individuals either in actuality or in thought. A strong emotional relation between two people (such as pair of twins or best fiends) represent the attachment bond. In addition, attachment bond is a strong emotional relation between two people, often an inferior one (such as a child) to a superior one (such as an adult).

The primary, enduring, and special relationship that gradually develops between an infant and the primary caregiver, represent the most important attachment bond in developmental psychology (Batson, Duncan, Ackeman, Buckley & Brick, 1981). Identification is the process of associating the self closely with other persons and assuming their characteristics or views. In psychoanalytic theory, such

identification operates largely on unconscious or semi-conscious level. It can be seen as a tendency to make decision in terms of the goal of a particular group or organization to which the person belongs. Identification has both motivational and cognitive foundations. Whatever its psychological roots, identification is an important of organization and group or social behavior. Frued assumed the characteristics of some ideal person; becoming as much as possible similar to this perceived paragon. Kinds of identification include: anaclitic, cosmic, counter, cross-parental, defensive, domain, feminine, group, healthy, mismultiple, primary, secondary, projective, pseudo-identification, self-identification, (Corsini, 2002).

**The moral emotions:** Several emotions, including guilt, shame, and empathy, have been viewed as playing a fundamental role in morality. Although pride is a self-evaluative emotion that can stem from moral behavior, research on pride usually has concerned achievement.

**Prosocial/altruistic behavior:** Socializing the emotional experience

Literature and life abound with evidence that our view of our universe and ourselves is profoundly colored by our mood. The last decade has seen an upsurge in researches/of the ways emotional status and experience influence our responses to others and ourselves, (Paulus ,2014).

Research on prosocial behavior has provided a major vehicle for examining the influence of mood states. Altruism is particular provides an interesting setting for examining the role of mood. Because there are no external tangible rewards for altruistic behavior, the most parsimonious assumption is that it is sensitivity to the needs of others that promotes altruism, (Handel, G. 1988).

The “feel good, do good” phenomenon is not limited to success, by any means. Competence produces similar effects. Subjects who believe themselves more competent are more willing to donate blood in an ongoing drive than those who feel less competent (Bowles, 2006). Success, competence and good luck are complex mixtures of cognition and emotion. The child’s affective state had a potent effect on the child’s tendency to donate. Children who had focused on happy thoughts gave significantly more than did children in the control or sad conditions. Children who had recalled unhappy events contributed significantly less t5han control subjects. Positive affect may generate a general expansiveness to the external world. A feeling that one has more than adequate resources. Negative affect may generate the opposite sense, a turning inward emotionally, perhaps even perceptually, and a sense that one resources are inadequate. One possibility that would account for the relative failure of negative affect to promote altruism is an attentional one: that negative affect diminishes attention to external cues and thus to the needs of others. This hypothesis was investigated in an experimental method that was identified Moore and his associate since 1973, (Lacetera & Macis, 2008).

**What are the special effects of negative mood on altruism?** As the child mature, he/she increasingly internalizing social norms regarding the desirability of exhibiting prosocial behavior. Because prosocial action is valued by society, we are able to feel good about ourselves when we help others. Thus, one would expect people in the negative mood to be more helpful to others than people in neutral mood, since the people in a negative mood should want to improve their mood by doing something as socially desirable and reinforcing as altruism, (Decety & Cowell, 2015).

**What about the focus of attention?** Investigations showed that, when induced joy in two groups of subjects: the first experienced joy for themselves, an egocentric joy, and the second experienced empathic joy for close friend, those who experienced egocentric joy were markedly more altruistic toward the third party than those who experienced empathic joy. Indeed the later were less altruistic than a comparable control group that did not experience these affects. Empathic joy facilitates altruism toward the same or higher-status persons; also, it promotes helpfulness toward lower status people (Campos, Witherington, Anderson, Frankel, Uchiyama, Barbu-Roth, 2008). When sadness rather than joy is the dominant mood, findings are revised. Subjects listened to tape that solemnly described a friend’s tragic death from cancer; they were directed to attend either to the worry, anxiety, and intense pain suffered by their friend or to their own pain sorrow caused by their friend death. Subjects in a control condition listened to boring, emotionally “neural” tape. Path other and self-oriented subjects were much sadder than the controls (but did not differ from each other). Subjects who attended to the

feelings and thoughts of their friends were significantly more helpful and altruistic than the self-focused or control subjects (Hoffman, 2000).

**Attraction to others:** In addition to our willingness to help and reward others, a number of researchers have suggested that mood may influence more general social tendencies. Tomkins refer to “Sociphobia” of sadness, and “sociophilia” of joy. If, as has been suggested, happiness promotes an outer orientation, a willingness to be generous to oneself and to others, and a generally positive self-orientation, then we might expect happy people to seek out others, (Wilson, 1984). The situation for sad people is probably more complex. On the one hand, negative self-evaluation and the inward focus that accompanies sadness might lead sad people to eschew social contact. Alternatively, sad people may seek social contact as a means of alleviating the sadness, (Krebs, 1975).

**Maternal socialization practices:** From the preceding analysis of the socialization process, we gain some idea of those practices that might ensure internalization of societal values. The attribution approach has a number of implications for how parents might promote internalization. It suggests that they should avoid the use of maternal rewards and punishment, emphasizing instead those of a social nature. Under these conditions, internal attribution of positive dispositions should be an even more effective way to promote the generalization of prosocial behavior; additionally, the reactions to altruism (Lacetera & Macis, 2008).

The role of emotional experience in prosocial/Altruistic behavior Following an introduction of some modern theoretical issues in the area of emotion and the development of peripheral-dimensional theory and research, a brief review of literature is showing the impact of intensity of emotional arousal on moral decision making. Several studies that were designed to demonstrate that one's interpretation of the meaning of emotional arousal moderate the effectiveness of the arousal in facilitating resistance to temptation, (Eisenberg 1986). Following another brief review of related emotion-attribution research based upon hypotheses derived from a peripheral-dimensional approach to emotion, some conflicts are highlighted in what seem at first to be a smooth progression of support for the peripheral-dimensional approach. Another important issue in the studies is the self-control in childhood, in which the experience of emotion (feeling good or bad) was, attributed to “internal” (the child's own behavior) or to “external” (others about the child's behavior) causes. The attribution of emotional experience to internal causes was showed to have powerful self-control facilitating effects on difficult watching assignments of the larger literature on moral and prosocial behavior and socialization (Batson, Duncan, Ackeman, Buckley & Brick, 1981).

The role of emotional experience in resistance temptation is an important variable from developmental perspective. Explanations are advanced for how the progression from more intense emotional responses in younger children to the more symbolic and mild representations of emotional states in adults may result in emotion-mediated self-control, (Decety, Howard 2013). Approaches to socialization that enhance and facilitate an internal basis for conscience are essence regarding inherited temperamental differences in fostering internal and external emotion-attribution dispositions for prosocial behavior. Some evidences of researches revealed the connection between temperament and internality of behaviors. The responses to naturally occurring altruism are: Acknowledge/thanks, social approval (smile, hug, warm appreciation), praise the act, ignore, attribution, material rewards. On the other hand, the responses to failure to be altruistic and antisocial are moral exhortation, direct instruction, forced appropriate behavior, scolding, no response, empathy training, and punishment, (Eisenberg, 1986).

**Guilt and Shame:** Guilt has been defined in a variety of ways. In classic psychoanalytic theory, it is viewed as a superego response to one's own unacceptable impulses, often based on anxiety caused by childhood conflicts over such issues as abandonment and punishment by parents. This type of guilt generally is seen as causing psychological distress and problems with adjustment, and today it is not viewed as playing much of a role in moral behavior. In contrast, in developmental and social psychology, guilt often refers to regret over wrongdoing. For example, it has been defined as “an agitation-based emotion or painful feeling of regret that is aroused when the actor actually causes, anticipates causing, or is associated with an aversive event” (Ben-Ami, Bartal, Decety, Mason, 2011).

The guilty actor accepts responsibility for a behavior that violates internalized standards or causes another's distress and desires to make amends or punish the self (Ferguson & Stegge 1998, Hoffman 1998, Tangney 1991). It is this type of guilt that is most relevant

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to a discussion of moral emotion. Shame often has been used as a synonym for guilt and has received much less theoretical attention in the past. More recently, it has been defined as “a dejection-based, passive, or helpless emotion aroused by self-related aversive events. The ashamed person focuses more on devaluing or condemning the entire self, experiences the self as fundamentally flawed, feels self-conscious about the visibility of one’s actions, fears scorn, and thus avoids or hides from others” (Eisenberg, 1986).

Many researchers and theorists now agree that guilt and shame (at least as defined above) are two distinct emotions and that an important difference between them is in the degree of focus on the self (Cheng Chen Decety, 2014). When a person experiences shame, the entire self feels exposed, inferior, and degraded. Adults report that shame experiences are more painful and intense than are guilt experiences and are associated with a preoccupation with others’ opinions. In contrast, guilt generally is less painful and devastating than shame because, when one experiences guilt, the primary concern is with a particular behavior, somewhat distinct from the self, (Bernhardt, & Singer, 2012). Guilt involves feelings of tension, remorse, and regret, but does not affect one’s core identity. Shame is associated with the desire to undo aspects of the self, whereas guilt is reported to involve the desire to undo aspects of behavior (Cheng Chen Decety, 2014). Similarly, shame, but not guilt, is related to discrepancies between one’s beliefs about the self and beliefs about what the self ought to be or what the ideal self would be, (Decety Howard, 2013).

It is important to note that guilt often has been operationalized as a response that involves concern about others’ feelings and with reparation (e.g. Tangney 1991). It is likely that guilt that is less reparation oriented, based on irrational or illogical assessments of responsibility or that is not resolved can affect feelings about the self over time and may have more maladaptive effects. Moreover, guilt and shame often co-occur; children may be especially prone to the combination, (Eisenberg, 1986).

The emotions that underlie feelings of responsibility for distresses of others are most likely to be guilt and empathy. The role of guilt in developing and its link with prosocially and altruistic behavior in children have been the subject of much speculation. Human seem to be the only animals with strong propensities toward experiencing guilt. Dogs may be an exception to this generalization about species differences. Accounts of chimpanzees show their ability to make separations for wrongdoing in sign language. Little is known about whether guilt is in their repertoire in the natural habits, although appeasement gesture are common in some species. On the other hand, empathy is an important facilitator of altruism and inhibitor of aggression. Many theories of the development of altruism make of assumption that empathy facilitates altruism. Guilt and shame frequently have been implicated in theories of morality, with guilt being a quintessential prosocially emotion. Both are considered “self-conscious emotions,” as is embarrassment. These emotions are labeled “self-conscious” because the individual’s understanding and evaluation of the self are fundamental to these emotions, (Fletcher, 2007, Frijda, (1986).

### **Empathy, Identification and Prosocially Behavior**

Shame and guilt both involve a sense of responsibility and the feeling that one has violated a moral standard (Roth-Hanania, Davidov, & Zahn-Waxler, 2011). Moreover, both emotions can be responses to the same situations, and both can arise from concerns about the effects of one’s behavior on others. Shamed people are relatively unlikely to try to rectify their transgression. Probably because guilt is focused more on the transgression than the self, guilt seems to motivate restitution, confession, and apologizing rather than avoidance. However, it should be kept in mind that, in much of this work, guilt has been defined as a reparative response, so these associations are not surprising, (Krebs, 1975).

Shame and guilt appear to be differentially related to empathy related responding. Tangney (1991) found that guilt was associated with adults ‘self-reported, other-oriented empathic responsiveness, whereas shame was negatively associated, especially when controlling for guilt. Shame was especially associated with personal distress reactions (i.e. aversive, self-focused reactions to others in need or distress).

Embarrassment is an emotion distinct from guilt and shame in that it involves antecedents, experience, and on verbal displays that are different from those of other emotions. Recent research is consistent with the conclusion that embarrassment, in comparison to

shame and guilt, is the least negative, least serious, and most fleeting emotion; it is the least related to moral implications and moral transgressions; it involves less anger at the self and less interest in making amends; and it tends to involve surprising and accidental events for which people feel less responsible. Thus, there generally is consensus that embarrassment plays at most a minor role in moral behavior. Bernhardt, & Singer, 2012.

Empathy is thought to be an important precursor to and motivator for prosocial, or helping, behavior. It has been proposed that empathy is an evolved mechanism that promotes altruistic behavior. If a person sees someone in distress, for example, he may himself begin to feel distressed; this would provide a strong internal signal that the other person needs help. At that point, the feeling of distress may lead the person to think of what might make him feel better in similar situations, which may then promote helping behavior, (Carlo, Mestre, Samper, Tur, & Armenta, 2011). Empathy is connected with identification, as the most important defense mechanism in life span, especially, in childhood. When reading a novel or watching a film or a television program, audience members often become absorbed in the plot and identify with the characters portrayed. Unlike the more distanced mode of reception-that of spectatorship-identifications mechanism through which audience members experience reception and interpretation of the text from the inside, as if the events were happening to them. Identifications tied to the social effects of media in general, to the learning of violence from violent films and television, specifically (Roth-Hanania, Davidov, & Zahn-Waxler, 2011). and is a central mechanism for explaining Such effects found that children remembered more of the actions and speech of characters with whom they identified. Finally, identification is important because of its contribution to the development of self-identity. Children identify the behavior and the personality that empathized during development. Many studies have examined how a person's tendency and ability to empathize predicts prosocial behavior toward others. It has been found associations between empathic concern and prosocial behavior (Ben-Ami, Bartal, Decety, Mason P 2011).

As suggested above, Fletcher, (2007) argued that empathy is the evolutionary mechanism that motivates altruistic behavior and similar prosocial behavior. There are two prominent lines of thinking that may explain this association. First, empathy may motivate altruistic, other focused helping behavior that occurs despite its cost to the self. Alternately, prosocial or altruistic behavior may be motivated by a desire to reduce the negative arousal induced by viewing another's distress. Social psychological research has focused on distinguishing between these alternate motivations by assessing individuals helping behaviors when they are placed as witnesses to a person in distress.

In addition to being associated with helping and moral behavior toward others, the ability to empathize is also associated with social skills. Social skills index the ability to function optimally with others. In their review, (Bernhardt, & Singer, 2012) found that higher levels of empathy in children were associated with more cooperative and socially competent behavior. Other researchers have also found that children with higher empathy for positive and negative emotions are more social competent, (Waxler, Cumminge, & Lannotti, 1986).

### **Psychopathological Altruism**

Pathological altruism might be thought of as any behavior or personal tendency in which either the stated aim or implied motivation is to promote the welfare of another. Many harmful deeds-from codependency to suicide martyrdom to genocide-are committed with the altruistic intention to help companions or one's own in-group. Thus, it is worthwhile to investigate how well-meaning altruism can shade into pathology, and provide for a more nuanced and sophisticated understanding of altruism (Bernhardt, & Singer, 2012).

Although, the first known reference to pathological altruism in professional literature is from 1984 paper by Nancy McWilliams "the psychology of the altruist", the lack of systematic research and theory in regard to pathological altruism doesn't mean that maladaptive variants of altruism (as excessive self-sacrifice) have completely escaped clinical notice < the DSM-V content the concept of dependent personality disorder and maladaptive form of agreeableness in the Five-factor Model of personality.

Empathy deficits may be even more central to psychopathology. The most empathy deficits revealed in autism. Antisocial behavior and psychopathology may be characterized by deficits in emotional empathy rather than cognitive empathy (Fletcher, 2007). Multiple studies have found no theory of mind impairments in individuals with psychopathology. In contrast, individuals with psychopathology show less physiological responsiveness to distress cues, and deficits in their ability to recognize facial affect, particularly fear. There has been recent supportive evidence from neuroscience studies, which shows dysfunction in empathy related brain areas, particularly areas of the limbic and par limbic system, among psychopathic individuals (Trommsdorff, & Friedlmeier, 1999). That these individuals evidence dysfunction in limbic and paralimbic structures associated with experiencing emotions supports the primacy of deficits in emotion reactivity and processing, (Bernhardt, & Singer, 2012).

If psychopaths have intact cognitive empathy, but dysfunctional emotional empathy, it suggests that the ability to feel another's pain is the central component to motivating prosocial behavior and minimizing antisocial behavior. It also suggests that the ability to cognitively understand another's perspective can be socially dangerous in the absence of an emotional empathic connection with the other. From a broader perspective, we have presented evidence that cognitive empathy is more impaired in individuals with autism while emotional empathy is more impaired in individuals with psychopathy. This suggests that the cognitive and emotional 23 components of empathy can develop unequally, and that both are necessary in promoting healthy social functioning, (Carlo, Mestre, Samper, Tur, & Armenta, 2011).

### Genetic and Biological Influences on Prosocial Behavior

Since the brave attempts to bring Biology to the center of the social sciences discourse, by Edward Wilson and Richard Dawkins with their books Sociobiology and The Selfish Gene, more than forty years ago, Biology has gained recognition as one of the, if not the, main area in the search for human behavior understanding. Disciplines such as behavioral genetics, cognitive neuroscience, and evolutionary psychology among others have been brought to the center of the spectacle in the quest for the understanding of the mind and the influence of those areas is growing every day. (Wilson, E. (1984). Within this perspective, this article brings attention to how the problem of understanding human altruism could be better comprehended with the addition of the information brought by the biological disciplines involved in the understanding of human behavior. (Krebs, 1975).

Evolutionary biologists do not conceive of behavior itself as being passed from generation to generation; rather, some mechanism; in this case an internal mechanism – a structure of nervous connections in the brain – is hypothesized to be the evolving entity. Altruism as it appears in behavior is conceived as the action of that mechanism developed over the lifetime of the organism. Tooby and (1996, p. 125) compare the structure of the altruism mechanism to that of the eye: “We think that such adaptations will frequently require complex computations and suspect that at least some adaptations for altruism may turn out to rival the complexity of the eye. “This biological compatibility makes contact with modern Cognitive and physiological psychology (Sober & Wilson 1998). Cognitive psychology attempts to infer the mechanism's principles of action (its software) from behavioral observation and manipulation, while physiological psychology Attempts to investigate the mechanism itself (its hardware).

From the biological viewpoint, altruistic acts differ from selfish acts by virtue of differing internal ediating mechanisms; altruism becomes a motive like any other. In this view, a person leaves a tip in a restaurant to which he will never return because of a desire for fairness or justice, a desire generated by the restaurant situation and the altruistic mechanism within him, which is satisfied by the act of leaving the tip. Similarly, he eats and drinks at the restaurant because of desires generated by internal mechanisms of hunger and thirst. For the biologist, Person A's altruistic behavior (behavior that benefits others at a cost to A) would be fully explained if Person A were shown to possess the requisite internal altruistic mechanism. Once the mechanism were understood, no further explanation would be required.

**Altruistic adaptive behavior in animals and Humans:** For most part of social scientists culture is something limited to human beings and sometimes to other primates. But, for what we have seen nowadays, it's a limited and hasted view, and if we are to understand culture as a system of patterns, preferences and behaviors regarding animal activities socially transmitted, we have precedent to start



questioning current views on the matter. In the case of social animals the development of patterns in the behavior which includes altruistic decisions and what we call “moral sense” gives them some adaptive advantages in their own social environment, and sometimes, among other groups or tribes. Within the field of ethology this is common Knowledge, Insects such as ants and bees, all sorts of mammals, some birds, display some kind of altruistic behavior, be it to parents, or to their social group. Still nowadays to be common place for social scientists to display all kinds of reservation that moral sense and cultures are disseminated all over animal kingdom (Howes, & Farver, 1987).

In human beings, which are social mammals<sup>12</sup>, the same pattern is easily observed. The social team work during hunt, war or environment exploring was paramount for the adaptation of early hominids. This kind of behavior diminished in-group fighting, sexual disputes and facilitated food sharing. The efforts to keep group cohesion went from the sense of reciprocity to punishing among partners of different social ontracts. In that context, we can say that human beings developed cognitive adaptations to process social information 3. We are mentally adapted to solve the adaptive problems faced by our ancestors and that our minds were architected by hundreds of thousands of years of environment pressure through natural and sexual selection during our evolutionary journey, (Decety, Howard 2013).

### Evolutionary Effects

**The natural selection of selfishness:** We will assume that general evolution takes place through blind variation and natural selection. This includes all processes of development and evolution, at the biological, as well as at the physical, chemical, psychological or social levels. Natural selection can be defined as the survival or, more precisely, the selective retention or maintenance of the fittest System or configuration. Fitness corresponds in general to the probability of encountering the same or a similar system in the future. Systems have a high fitness if they are stable (they tend to maintain for a long time), and/or they leave many offspring when they disappear, that is if they have produced many other systems that can somehow be considered as copies or replicas of themselves. Such self-reproducing systems are called replicators (Flecher, 2007). Natural selection means that systems, which have insufficient fitness, because they are unstable and do not produce offspring, are eliminated from the natural scene. This process of selective elimination occurs spontaneously and continuously. (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010).

The ever present variation, which implies that even stable systems do undergo small changes, or produce slightly different offspring, leads to a continuously renewed variety of configurations undergoing selection. Since at each stage or generation the least fit systems tend to be eliminated, the process of evolution leads to a generally increasing fitness of the remaining systems (at least relative to their competitors). The systems resulting from such a process will have maximal fitness as their implicit goal, in the sense that systems whose behavior is not directed at optimizing fitness simply will not maintain. Let us analyze this in more detail. In general, systems that replicate need resources (building blocks, energy, space,) in order to build copies of themselves. Resources are normally limited. Since each replicator tries to produce a maximum of copies, it will also attempt to use these resources to the limit. However, if more than one replicator is using the same resources, there will be a situation of competition or conflict. Slight differences in fitness between the competitors will be exacerbated, since the more efficient replicator will gradually succeed in using more and more of the resources, leaving less and less for the less efficient one. In the long term, nothing will be left for the less fit one, with the result only the fittest will survive (Decety, & Michalska, 2010)

**Prosocial behavior in animal:** Prosocial actions have frequently been noted among nonhuman animals. Social insects often sacrifice their own lives to protect their nest. Similarly, costly helping and rudimentary forms of empathy have been observed in rodents (Trommsdorff, & Friedlmeier, 1999). and consoling and helping appear in chimpanzees and bonobos. Such behaviors, as well as very early signs of prosocial tendencies in human infants (Hamlin & Wynn, 2011), are unlikely to rely on direct socialization or moral, (Lim, & Young, 2006).

Considerations and require a biological explanation. Such explanations may then be extended to human behavior, although humans differ from other animals in the nature and extent of prosocial behavior (reviewed by Silk & House, 2012). To explain how prosociality evolved despite the evolutionary price accrued by sharing or helping, several approaches have been proposed, most notably

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direct reciprocity, indirect reciprocity, network reciprocity, kin selection, and group selection (Wilson, 1984).). Reciprocity explains the evolution of altruism to the extent that the behavior is reciprocated, either directly or through reputation. Toddlers' prosocial behavior involves both direct and indirect reciprocity (Vaish & Tomasello, 2014). In kin selection, through self-sacrificing or cooperative actions, the prosocial animal increases the probability that its relatives, who share its genes, will survive and reproduce (E. O. Wilson, 2004), and evolution promotes altruism through promotion of genes, not survival of individuals. Humans share more resources with those genetically close to them, and are more willing to risk their lives for relatives. (Bernhardt, & Singer, 2012).

Although it is hard to distinguish between closeness based on genetic relatedness, geographic proximity, or emotional closeness, which often co-occur. Group selection approaches posit that altruism among group members may benefit the survival of the group. This idea has been hotly debated (although there is evidence that highly cooperative groups survive better than do other groups (Brownell, Iesue, Nichols, & Svetlova, 2013). The idea of multilevel selection implies that although evolution at the individual level (within groups) favors nonaltruists, selection at the group level favors altruism (Nowak, 2006). Importantly, although evolutionary principles explain ultimate, long-range causation, they do not directly explain the behavior of each individual. Human empathy may have evolved as a mechanism promoting infant–mother bonds (de Waal, 2008), but it can now be extended to other conspecifics and even to pets. At the group level, altruism may be seen as a tool for outperforming other groups (Choi & Bowles, 2007), but such consideration of group needs can be extended to overall, within-group cooperation, (Flecher, 2007).

### **Genetic Effects**

Research estimating the genetic contribution to individual differences in prosocial responding (heritability) typically relies on the twin design. In this design, if the covariance between scores on prosocial responding is higher for identical (monozygotic) twins than for fraternal (dizygotic) twins, the difference is attributed to genetic effects to the degree that common environmental sources are assumed to be shared to roughly equal degrees by the two types of twins. Most twin studies involving adults' self-reported prosocial tendencies have found that genetic factors accounted for a substantial portion of the variance in altruism, empathy, and nurturance (typically, 40%–60%). Most of the remaining variance was accounted for by idiosyncratic differences in the environments of the twins (no shared environment) rather than by their shared environment, (Cappella, & Weinstein, 2006). Despite this consistency, the estimated contribution of genetics and the environment varies from study to study, reflecting the diversity in measures and conceptualizations of prosociality (Studies using experimental Measures of prosocial behavior are few and tend to show lower heritabilities. For example, in a Swedish twin study, moderate but significant heritability (22%) was found for donations to a charity, with a small (9%) shared environment effect on giving (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010).

Most genetically informative studies of prosocial behavior and empathy in children have used parents' reports of children's behavior. These studies tend to converge on substantial heritability estimates and meaningful no shared environment contributions, whereas shared environment estimates vary by age, measure, and culture. For example, American adolescents' self-reported empathy showed moderately significant heritability (.28) and no shared environment effects (Davis, Luce, & Kraus, 1994). Using parents' reports of prosocial behavior, a South Korean study of 2- to 9-year-old twins reported 55% heritability and no shared environment effects (Hur & Rushton, 2007). A cross-cultural (United Kingdom, South-Korea, and Israel) comparison of parent-reported prosocial behavior found similar heritability estimates, accompanied by differences in the importance of shared environment effects (Ben-Ami, Bartal, Decety, Mason, 2011).

The other observational studies of empathy and prosocial behavior all relied on twins' reactions to others' simulated distress. Among American twins (aged 19–25 months) watching their mother feign distress, monozygotic correlations were higher for hypothesis testing (the cognitive aspect of empathy) and empathic concern, but not for helping behavior, and evidence for shared environment effects was also found (Volbrecht, Lemery-Chalfant, Aksan, Zahn-Waxler, & Goldsmith, 2007). A study of 3.5-year-old Israeli twins showed a small, no significant genetic effect for empathic concern towards an examiner (19%) and a significant effect for hypothesis testing (44%), (Bernhardt, & Singer, 2012).

Research on the genetics of empathy and prosocial behavior has largely focused on genes related to vasopressin and oxytocin, two neuropeptides involved in social behavior (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010). Knafo, Israel, *et al.* (2008) found that the length of the promoter region of the arginine vasopressin 1A receptor (AVPR1A) gene related to university students' money donations in the dictator game (in which participants decide how to split a fixed amount of money between themselves and a stranger) and self-reported altruism. In a similar task, 3.5-year-old Israeli twins donated fewer stickers if they were carriers of the 327-bp allele of this gene (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010).

In summary, there is substantial evidence for heritability of empathy and prosocial behavior, which varies by measurement and probably increases with age. All twin studies demonstrate the importance of the environment, especially the environment not shared by children growing up together. There is evidence for the involvement of specific genes, although these results do not always replicate. Genes, and environmental variables such as parenting, do not operate in isolation. More research on gene-environment correlations and interactions is needed to understand their combined contributions. (Cappella, & Weinstein, 2006).

### Neurophysiological perspective of Prosocial Response

Helping or altruistic behavior arises from the "nurturing dictates of brain systems that mediate social bonding and maternal care. This view is consistent with that of MacLean (1985), who argued that the basis for altruism lies in maternal behavior, affiliation, and play, which are mediated in part by the limbic system of the brain. MacLean further suggested that the prefrontal neocortex, which developed relatively recently in evolution and is most distinctive in humans, provides the basis for concern for others and a sense of responsibility and conscience (Flecher, 2007).

Most brain studies of empathy focused on reaction to others' distress, particularly pain. There is no single "empathy" brain region; rather, empathizing with others' pain involves a network of several regions also involved in the experience of pain to the self: anterior midcingulate cortex (aMCC), anterior insula (aINS), supplementary motor area (SMA), and periaqueductal gray (PAG) (Decety & Knafo, in press). These regions are activated when children (7–12 years) watch others in pain (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010). This overlap in networks for self-pain and other-pain suggests that empathy involves experiences shared by the person in distress and the perceiver (e.g., Bernhardt & Singer, 2012), providing a strong signal that can promote empathic concern. It has been proposed that vicariously experiencing emotions other than pain, such as disgust and anxiety, also activates the aINS and the cingulate cortex, with aINS involved in perception of positive emotions in others (Decety Michalska, 2010).

The overlap in neural systems involved in experiencing and empathizing has been proposed to reflect mirroring processes at the single-cell level, which involve mirror neurons. The role of the mirror-neuron system has been debated, and although its involvement in simulation of others' emotions is referred to as the basis for empathy (Oberman & Ramachandran, 2007), it has been pointed out that mirror neurons have been found only for actions, not emotions, and that there is little overlap in brain regions involved in experience as compared to perception of emotion, (Brownell, Issue, Nichols, & Svetlova, 2013).

Prosocial motivation and behaviors involve separate processes, and although they have been studied to a lesser extent than empathy, it is safe to say that the former involves a different neural system whose activity overlaps with cognitive and affective aspects of empathy (Cappella & Weinstein, (2006; Rachlin, 2002).

Although existing facts don't lend themselves to definitive conclusions concerning brain sources of altruism, it seems likely the mechanisms underlying helping/altruistic and antagonistic behavior are reciprocally related, and both could critically linked to brain opioid in limbic circuits. For instance, brain opioid, which promote social comfort, bonding, and play, presumably evoke psychological attitudes of peacefulness and trust. Conversely, opioid withdrawal promote distress, irritability and aggression. Such reciprocal innervations may be a general property of emotive circuits in the brain (Panksepp, 1983).

## Conclusions and Recommendations

First, Empathy is essential for motivating prosocial behavior toward others, including Complying with social rules and engaging in altruistic behavior. Empathy also facilitates the development of social competence and enhances the quality of meaningful relationships. Empathy can be both an emotional and a cognitive experience. The ability to empathize begins at an early age, with infants as young as 18 hours showing some responsiveness to other infants' distress. During the second year of life, toddler's responses to others' distress typically transform from an overwhelming personal distress reaction to a more other oriented empathic reaction. At the same time, toddlers become capable of rather sophisticated helping behaviors. As children reach the preschool years, significant developments occur in cognitive empathy, or theory of mind abilities. There is evidence to suggest that these early dispositions toward empathy and prosocial behavior may be consistent and stable over time (Roth-Hanania, Davidov, & Zahn-Waxler, 2011).

The ability to empathize develops with contributions from various biologically and Environmentally based factors. These factors include genetics, facial mimicry and imitation, subserving areas of the brain such as the mirror neuron system and the limbic system, child temperament, parenting factors such as warmth, parent-child synchrony, and other qualities of the parent-child relationship. If one or more of these factors function atypically, they may contribute to empathy deficits, such as those present in autism spectrum disorders or psychopathy. The empathy deficits present in autism spectrum disorders may be more indicative of impairments in the ability to take the perspective of others, while the empathy deficits in psychopathy may be more indicative of impairments in responsiveness to others' emotions. 24 These "disorders of empathy" further highlight the importance of the ability to empathize by illustrating some of the consequences to disrupted empathy development (Trommsdorff, & Friedlmeier, 1999).

Second, It is important to ask critical questions about the theory and data (old and new) on prosocially and altruistic/aggressive behavior: Do our theories provide us with insight and understanding that would not be possible if we did not exist as a research and science? How can the theories best be tested? In this process of translation from theory to research methods, what can be done to minimize the extent to advance knowledge? Such judgment ought not to be rendered quickly. But it would not hurt for investigators to engage in some introspection and assess successes and failure along the way. Additionally, for assessing our culture and data more carefully, it would help to explore the research culture in which prosocially/altruistic and aggressive behavior are studied. The study of such issues in psychology has sometimes been construed as a "soft" science. One outcome has been that we are often unwilling to use even "softer" areas as sources of hypotheses about the process underlying prosocial and aggressive behavior (Carlo, Mestre, Samper, Tur, & Armenta, 2011).

Many of the constructs from sociobiology hold particular appeal because (1) they suggest to use how deeply in self and evolutionary history the motive forces for altruism and aggression are embedded and (2) they tell us to look to nature to view these patterns of social organization. There are some problems in this approach as well. However. Many of the ideas are result of highly abstractly developed arguments that are based on very limited observations or on analysis of very primitive organisms. Generalization of sociobiological principles to explain the social lives of more complex organisms may often be unwarranted.

If progress is to be made in understanding the biological and psychosocial origins of altruism and aggression, conceptualizations and research methods will require significant expansion. Carolyn Zahn-Waxler summarized what viewed, as some needed new directions in investigations:

1. The construction of taxonomies of different kinds of caregiving, prosocially and aggressive behaviors and emotions as they occur in nature and as they occur in different species is critical.
2. Developmental studies, cross-cultural and longitudinal in design, would aid in the construction of these taxonomies of social behavior, and furthermore, would provide more accurate basis for construction about the circumstances under which altruism and aggression become more or less significant components of our social repertoires as we mature.
3. Cross-cultural researches, adoption studies, and twin studies may help to elucidate the interplay of biological and psychosocial environmental factors and forces that influence children's prosocially/aggressive behaviors.

4. The motives, intentions and attitudes that underlying prosocially/altruistic and aggressive behaviors were taboo topics of research for many years. However, opportunities can be created to examine the less overt and ostensibly less factors governing our social lives.
5. Parametric studies of affective reactions to the distress emotion of others (sadness, anger, distress) in different species of animals will help to explain the origins of our social and affective bond and ties of others. Emotions are of special interest because they represent possible biophysiological substrates of prosocial and aggressive behavior. The search for biological markers, for indices of affective traits, as well as states underlying social behavior, is important task for future investigations. The questions that need to be addressed can only be answered affectively through the conduct of multidisciplinary/multimethoded researches and willingness to entertain seriously alternative points of view.
6. Explanation of the etiology of individual differences in altruism and aggression at different stage of development is needed.

Third, We are still a long way from describing how, precisely, emotion influences reaction to self and others. That goal is remote for several reasons. In the first place, emotion is no unitary phenomenon: Different emotions likely influence these reactions differently, and the full panorama of emotion has not yet been explored. Second, the processes through which emotion exert their influences are not yet fully understood. Finally, perhaps as the results of the considerations, there is little by way of theory to guide these explorations.

The literature on the relations between emotion and self, and others is not wholly without coherence (Eisenberg, 1986). The assumption is that the effects of emotion on self are mediated through perception and memory. We do not expect emotion to affect absolute memorial performance levels. The availability of memories, the readiness with which they “come to mind”, will be differentially affected. Here the data are rich, as will be seen elsewhere in many handbooks. Happy people retrieve pleasant information, - whether that information consists of personality descriptions, memories, or pleasant words- more readily than they do unpleasant information. For reason that remain unclear, the situation regarding affect retrieval relationships is less certain, and likely more complex, for happy people, (Decety, Howard. 2013). It seems clear that unhappiness blocks the retrieval of happy memories in much the same way that happiness makes the retrieval of unhappy memories more difficult. While happiness clearly facilitate the retrieval of happy memories, unhappy states may be less effective in making unhappy memories available because unhappy memories perpetuate an aversive emotional experience. Emotional experience is effective and available state that deeply affects reaction to self and others. Its power resides, in part, in its pervasiveness: There is hardly an area of self- or other-reaction that is not touched and altered by emotion. Happiness affects attribution, perception of control, self-reward, task performance, self-concept and delay of gratification all in the expected direction.

Fourth, a surge in research on the neurophysiological components of prosocial responding has yielded a vast amount of data, and the challenge now is to better conceptualize how different aspects of prosociality (e.g., empathy and prosocial behavior) are associated with these neurophysiological factors. There is still a need to integrate research on central and autonomous nervous system on empathy and prosociality. In addition, there is a need to distinguish between factors involved in the prosociality and empathy of humans, as a species, and those involved in individual differences. The role of vasopressin and oxytocin in empathy and prosocial behavior suggests a good place to start in studying the influence of genes on prosociality.

Both the overall human tendency for prosocial behavior and empathy and individual differences reflect biological characteristics. Some of these characteristics may be common to humans and other species. Biological influences are meaningful at the genetic, brain, and physiological levels, although research combining these different levels is scarce. In addition, neuroscientific research on empathy and prosociality has largely focused on adults, but the existing evidence from this research and from the genetic research suggests that processes may be age-dependent, and a stronger developmental approach is needed. The effects of these biological factors likely vary across situations and interact with other social factors. More studies from non-Western cultures are needed to establish the role of culture as a potential moderator of the biological substrates of prosociality and empathy. Overall, contention that prosocial behavior has a genetic basis still lacks empirical verification more likely that aspects of personality are genetically determined, (Bernhardt, & Singer, 2012).

To summarize, evolution in structured populations is a complicated process that can be modelled in several ways. Each method can be made intuitive by employing the metaphor of human decision making, but the distinction between selfish vs. altruistic that the metaphor makes “natural” is different for each method. The price of employing the metaphor as a heuristic tool is an insidious form of pluralism in which different frameworks use the same words to refer to different things (Carlo, Knight, McGinley, Goodvin, & Roesch, 2010).

It can be concluded that, the finding of researches show the necessity of a closer approach of the field of psychology to biology disciplines such as behavioral genetics, evolutionary psychology among others for it to grasp the totality, or at least a bigger part, of human behavior. Following evolutionary psychologists, behavioral geneticists, cognitive neuroscientists we argue that any science that search for the understanding of human behavior cannot distance themselves from the biological factors that dictates the behavior of every other animal in our kingdom, and that isn't productive to ignore the physiological factors that are intimate related to our behavior and last but not least the evolutionary process responsible for the development of our neural apparatus and its behavioral abilities. In that scope our moral sense can be much better understood in a broader context in which account the social variations of such phenomena but do not forget its evolutionary roots shared with other animals.

Finally, the prosocially/altruistic behavior is very complex phenomenon, because it has multi - integrated components and domains: Bioneurological, psychological, Social, Moral, Cultural, and should be examining and understanding during developmental stages, especially, in childhood as the phenomenon of altruism extends from the biological realm to the human socio-cultural realm.

Reuchlin (2002) proposed that, it is not possible to tease apart the individual and social benefits of such acts. High degrees of altruism are infrequent, not because most people lack an internal altruism mechanism, not because they are selected by evolution to be egoists' rather than altruists, but because of the highly abstract nature of the valuable patterns. He relation between particular acts of altruism and the intrinsic reward of the pattern is vague and indistinct. Altruism for most of us (like sobriety for the alcoholic) is not profitable and would not be chosen considering only its case-by-case, extrinsic reinforcement. Consequently, the way for most of us to profit altruism (and the way for an alcoholic to profit from sobriety) is to pattern our behavior abstractly to choose to be an altruistic (or a sober) person. However, in order to pattern our behavior in this way (and reap the rewards for so doing) we must forego making decisions on a case-by-case basis. Once we abandon case-by-case decisions, there will come times in choosing between selfishness and altruism when we will be altruistic even at the risk of death (Rachlin, 2002).

It can be concluded that, investigators should be implemented multi-methods for studying altruistic behavior such as longitudinal, experimental, clinical, and cross-cultural methodology, all that according to the recommendations mentioned above.

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