

2025

Born to be kind: The evolutionary significance of prosocial behaviors in humans

Yijia Xu

Western Academy of Beijing, clairexu1018@gmail.com

Follow this and additional works at: <https://scholar.utc.edu/mps>



Part of the [Psychology Commons](#)

Recommended Citation

Xu, Yijia (2025) "Born to be kind: The evolutionary significance of prosocial behaviors in humans," *Modern Psychological Studies*: Vol. 31: No. 1, Article 5.

Available at: <https://scholar.utc.edu/mps/vol31/iss1/5>

This article is brought to you for free and open access by the Journals, Magazines, and Newsletters at UTC Scholar. It has been accepted for inclusion in Modern Psychological Studies by an authorized editor of UTC Scholar. For more information, please contact scholar@utc.edu.

Abstract

Humans prefer kind romantic partners. Worldwide surveys have identified kindness as the defining feature of an ideal long-term partner, often explained as a signal for evolutionary fitness, demonstrating the ability to provide resources and ensure survival. Instead, we propose an alternative explanation: human preference for prosociality stems from an innate desire to be treated well. To test this, we asked participants whether they preferred kindness directed towards them or kindness exhibited more generally. Results indicate that participants were significantly more attracted to people who were kind to them personally than to people who were broadly kind to others. Interestingly, participants were equally repelled by people who demonstrated unkindness towards themselves and others. These findings suggest that people's attraction to kindness is driven primarily by self-interest rather than evolutionary signals alone. Our research further supports that the human capacity for prosociality may have developed through sexual selection for kind behaviors, highlighting the deep-rooted nature of kindness in human interactions. Future research could explore the interplay of evolutionary and cultural factors in shaping human kindness using longitudinal models, providing deeper insights into the motivations that drive prosocial behavior.

Keywords: romantic attraction, prosociality, kindness, evolution, sexual selection

Born to Be Kind: The Evolutionary Significance of Prosocial Behaviors in Humans

In 2020, a severe apartment fire in Grenoble, France, trapped two young children 33 feet above the ground (Associated Press, 2020). Without hesitation, passersby quickly gathered below, ready to catch them as they jumped to escape the flames. One young man even fractured his forearm in the process. These acts did not directly benefit the rescuers, yet it felt almost entirely natural; the idea of not helping those children would have rendered the bystanders cold-hearted or even monstrous. These responses, while seemingly spontaneous, reflected the natural human impulse to protect others and an innate drive rooted in kindness—a trait that appears to be woven into the fabric of human existence.

Prosocial behavior, acts primarily benefiting others, is often rooted in kindness—a quality that reflects our sensitivity toward the well-being of others and encompasses psychological, cultural, biological, and philosophical dimensions (Caplan, 1976; Schroeder et al., 2015; Weinstein & Ryan, 2010). In psychology, kindness is a state of being that reflects inner emotions and extends to our relationships with others (Curry et al., 2018; Hamilton, 2021). While kindness often inspires prosocial behavior, these two concepts are distinct: prosocial actions can occur without an emotional bond and may be driven by duty, social expectations, or ethical principles. This nuanced relationship highlights that while kindness can lead to acts of service and altruism, not all prosocial behavior stems from kindness.

Prosocial behaviors are expressed daily, and kindness often lies at the core of many such behaviors, driving us to help others in predicaments instead of obligation. The spontaneous acts of bravery, such as the Grenoble fire rescue, seem remarkable in hindsight, yet they often feel natural and instinctive at the moment. In fact, each of us is a “hero” in our lives, often without

even realizing it. We demonstrate small acts of kindness and generosity almost subconsciously. We hold the door for a stranger, share our snacks, or smile at someone who looks despondent. These gestures may seem minor, but they reveal a more profound, innate human tendency to care for others, whether for relatives, friends, or strangers (Zahn-Waxler & Smith, 1992). This tendency reflects a broader, intrinsic drive to contribute positively to others' well-being, ultimately strengthening social cohesion and resilience (Park et al., 2004). Taking a moment to notice, we will recognize the “decidedly human” actions that set us apart as humans—acts that surpass self-interest and survival, suggesting our capacity for empathy and compassion.

Prosociality manifests beyond an individual's level and is prevalent at a broader scale. People across the globe embody this spirit, creating systems that uplift others through organized charity and community support, even when no direct personal gain is involved. Americans contributed \$557.16 billion in charitable giving in 2023 (Charitable Giving, 2024). Additionally, the World Giving Index recently reached one of its highest levels, underscoring a global trend in which people continue to give—whether through financial support, volunteering, or acts of kindness toward strangers (Charities Aid Foundation, 2024). Whether assisting a stranger, donating to a cause, or investing time in volunteering, we consistently demonstrate a profound commitment to nurturing the people and communities around us. These individual and collective demonstrations of generosity and kindness illustrate inherent compassion and mutual care that extends beyond the self-serving instincts often observed in the animal kingdom (Fehr & Fischbacher, 2003; Jensen et al., 2006).

Indeed, evolutionarily speaking, such prosocial behaviors are uniquely prevalent in humans, contrasting sharply with even our closest primate relatives. Humans demonstrate much broader and more consistent patterns of cooperation and generosity (Fehr & Fischbacher, 2003).

In contrast, chimpanzees rarely engage in altruistic sharing behaviors, seldom share food outside kin-based relationships, and detest cooperation with unrelated individuals (Jensen et al., 2006; Warneken & Tomasello, 2009). Furthermore, chimpanzees protrude among animals as the species with the most lethal aggression occurrence (Hamburg, 1972; Sandel & Watts, 2021). This chasm in sharing behaviors and norms around generosity, kindness, and cooperation underscores humans' distinct evolution of prosocial traits. Thus, kindness may have explicitly evolved within humans, diverging significantly from our primate ancestors (Yamamoto et al., 2009).

Human's ubiquity of extensive prosocial behavior driven by kindness is challenging to explain through the lens of evolution. Frequently, evolution is regarded as a selfish process, favoring traits that enhance an individual's chances of survival and reproduction and shaping us to act solely in self-interest on most occasions (Wilson & Wilson, 2007). From a biological stance, we should be wired in such a manner to act in a way that primarily benefits ourselves or our close kin (Wilson & Wilson, 2007). However, despite this self-preserving instinct, humans consistently display behaviors that counter evolutionary logic (Wilson & Wilson, 2007). We share resources, time, and energy with even people we may never see again. This raises the question of how and why we, as a species, do so.

The underlying reasons remain a debate. One widely accepted explanation is inclusive fitness, first proposed by Hamilton (1963) and later elaborated by Trivers (2002). This concept suggests that organisms are prone to help relatives because doing so increases the chances of passing shared genes onto the next generation. For example, an individual might prioritize saving three siblings over saving themselves in an emergency because the combined chance of their genes being passed on is higher than through the individual alone. The inclusive fitness theory

provides a strong rationale for parents sharing resources with their children or siblings to assist one another. Nevertheless, it lacks an explanation for the broader scope of human prosociality. The theory is limited to justifying acts within a family and does not explain extended generosity to strangers or even friends (Dugatkin, 2007; Okasha, 2018). Acts of kindness such as donating to charity, helping a stranger in distress, or volunteering time for a cause are difficult to explain through the lens of inclusive fitness, as these behaviors offer no direct genetic benefit. Therefore, this theory is insufficient to construe the altruism and cooperation of the complex prosocial dynamics in human societies, where interactions often involve genetically unrelated individuals.

In addition to inclusive fitness, reciprocal altruism is another theory attempting to explain prosociality. This theory, proposed by Trivers (1971), points out that people help others with the expectation that the favor will be returned. The rationale for prosociality is, thus, “if you do something nice for me, I will do something nice for you.” Ultimately, this law stands because it benefits the individual who proposed it. While this justification applies to some instances, evolutionarily, reciprocal altruism also faces limitations when vindicating prosociality at an extensive scale or being the primary mechanism driving prosociality in many species. First, reciprocal altruism requires a substantial amount of cognitive capacity. Organisms need to track who helped them, how much, and when to ensure they repay the favor fairly so they do not overpay or underpay them. For many species, this requires an advanced memory system and social intelligence that not all organisms possess. Reciprocal altruism via managing complex webs of relationships and interactions is mentally expensive. It can drain energy that could have been utilized otherwise to direct survival benefits, such as foraging or avoiding predators. Even though humans possess higher cognitive abilities than most species, social groups also increase relative to them (Gintis et al., 2003). Despite the capacity for such memory and processing,

human communities and interconnectedness are too vast for these mechanisms to be practical as the primary drivers of prosocial behavior. Secondly, in reciprocal altruism, there is always a temptation to cheat (Packer, 1988; Packer, 1986; Phillips, 2017). This arises from the imbalance between the costs and benefits of cooperation and the asymmetrical power statuses (Phillips, 2017). Under the dynamic where assistance is reciprocal, one party can benefit without incurring the cost of reciprocation, which creates the incentive to cheat. Cheating is tempting because it allows individuals to conserve their resources for their survival while benefiting from the help of others. The risk of exploitation threatens the stability of cooperative behavior, making reciprocal altruism unlikely to be the primary driving force for human prosociality. Finally, humans often help others altruistically, even when there is no direct way to enforce reciprocal actions (Batson & Shaw, 1991; Bonnie & de Waal, 2004; Widlok, 2013). People frequently give without significant reciprocity expectations. We do not donate to charity and expect the organization to give us the same amount of money back one day. Consequently, reciprocal altruism undermines humans' generosity and kindness that transcends personal gain or kinship, implying that other psychological, biological, or cultural mechanisms may be more of impetuous motivations.

A third wide-accepted theory suggests that being prosocial is directly beneficial to group survival (Wilson, 1975). The group selection theory states that a community that shares resources and helps one another is more likely to survive than a society where individuals are solely focused on their own needs (Wilson, 1975). A sharing society is more stable and resilient, which benefits the individuals in return. In prehistoric hunter-gatherer societies, individuals who hunted together, shared food, and cooperated in defense had a higher chance of surviving than those isolated individuals who acted purely out of self-interest (Lewis et al., 2014; Pereda et al., 2017). This cooperation became ingrained in human social behavior. However, this theory is also

insufficient in elucidating the common prosociality among humans. Evolutionary biologists are divided on whether group selection is a valid mechanism at all (Okasha, 2006). If it were so advantageous, we would expect more species—like chimpanzees or other animals—to exhibit widespread prosocial behavior. Yet, they do not. Most species remain highly competitive and self-serving, even within their own groups. The rarity of true group-based altruism in the animal kingdom makes this theory highly contentious as an explanation for the extent of human kindness.

While previous theories have attempted to explain human prosociality, they are inadequate because prosociality appears maladaptive for survival and lacks immediate benefits for personal fitness and survival. This atypical, counterintuitive, and evolutionarily perplexing behavior may need another approach to illuminate its origin.

Sexual selection is a fourth possibility. Unlike natural selection, which primarily drives traits that enhance survival, sexual selection accounts for traits that appear maladaptive or extravagant but confer reproductive advantages, even if they seem costly or counterintuitive regarding individual survival (Puts, 2016). In many species, these traits display genetic fitness, signaling health, strength, or desirable qualities to potential mates (Lande, 1980). Darwin observed this phenomenon with the peacock's tail (Darwin, 1872; Petrie, 2021; Wadhwa, 2020; Kelley & Gorlick, 1990). Their tails are brightly colored tails that, at first glance, appear to hinder survival. The tail is not only energetically costly to grow and maintain but also makes the peacocks more conspicuous to predators (Griffith, 1998; Petrie, 2021). However, this ostentatious display persists because it confers a reproductive advantage: female peahens are consistently attracted to males with larger, more vibrant tails (Darwin, 1872; Petrie, 2021; Wadhwa, 2020). The peacock's tail thus exemplifies the trade-off between longevity without

reproduction and a shorter lifespan with many genetic legacies. While the tail may reduce individual survival, it enhances the male's chances of passing on his genes (Griffith, 1998; Petrie, 2021; Wadhwa, 2020). In evolutionary terms, a peacock with a striking tail but a shorter life may still be more successful than one with a long life but no mate, illustrating how reproductive success can outweigh individual longevity.

In humans, prosocial behaviors—such as altruism, empathy, and generosity—share a notable similarity with the peacock's tail in their apparent costliness to individual survival. Identical to the energetic costs of the peacock's tail, these prosocial behaviors often demand significant personal resources, including time, energy, and material assets that could otherwise support self-preservation (Raihani & Power, 2021, Fehr & Fischbacher, 2003). Altruistic acts, in particular, may place individuals in disadvantageous situations, diverting resources away from their own survival needs (Raihani & Power, 2021; Fehr & Fischbacher, 2003). Both peacock's tails and kindness in humans represent traits that, from a purely survival perspective, seem maladaptive. Nevertheless, their persistence suggests that both traits confer benefits not immediately tied to individual survival, hinting at an evolutionary role that transcends individualistic gain.

Biologists have long acknowledged sexual selection as a dictator in evolutionary processes. However, significant debate remains regarding the reasons behind peahens' preference for the peacock's flamboyant tail. The first hypothesis, though straightforward, posits that peahens just like it (Petrie et al., 1991). Evidently, empirical evidence cannot demonstrate or verify this claim. Hence, it is not widely accepted in the scientific community. A more nuanced theory suggests that the preference for the tail may be "piggybacking" on pre-existing preferences. For example, certain bird species prefer red berries and, by extension, may be more

attracted to mates displaying red traits (Henshaw et al., 2022). In this case, the peacock's colorful display might serve as a visual cue that resonates with other evolutionary needs or associations. The third hypothesis proposes that the tail functions as a signal (Cronin, 1999). From an evolutionary perspective, a peacock's ability to carry such a large, cumbersome tail without compromising its survival may indicate robust health and vitality. This could signal to peahens that the male possesses superior genes and is capable of withstanding the significant energy expenditure required to maintain such an elaborate feature.

Human kindness may be driven by analogous motivation. According to Miller (2007), prosocial behaviors signal genetic fitness, cooperative potential, and emotional intelligence. It contributes to the overall well-being. These behaviors could thus influence mate selection by demonstrating underlying qualities, such as resilience and social competence, that are advantageous for offspring viability. Empirical evidence increasingly supports prosociality's critical role in human mate selection (Bhagal et al., 2019; Ehlebracht et al., 2017; Stavrova & Ehlebracht, 2015). Studies have shown that kindness is one of the most desirable traits in a long-term partner (Li et al., 2002; Margana et al., 2019; Pearce et al., 2010).

Unlike simple survival traits, prosociality is a much more sophisticated and context-dependent characteristic. Therefore, considerable debate exists regarding its underlying mechanisms and driving factors (Hepach & Warneken, 2018). In tandem with the justification of peacock's tails, two possibilities can further frame the sexual selection theory. Firstly, humans simply feel good and honored when they are being treated nicely. However, this argument with *petitio principii* is not widely accepted, as it lacks explanation. Alternatively, kindness could signal underlying qualities such as reliability, cooperation, or genetic fitness, like the peacock's tail (Bhagal et al., 2019; Boog et al., 2024; Ehlebracht, 2013). In this case, the expression of

kindness would be less likely to be about specific targets and more about maximizing its visibility to a wider audience. For instance, an individual may be consistently prosocial across diverse contexts and toward a broad audience without apparent personal gain. This widespread altruism suggests an abundance of resources, resilience, or cooperative tendencies, making them an attractive mate. The targetted audience quantity can be positively correlated with the social fitness of an individual, making them more competent. Conversely, individuals may prefer exclusive kindness directed toward themselves, as it signals a deeper level of encouragement and value in a relationship. Such exclusivity may indicate reliability, trustworthiness, and a willingness to invest resources and care specifically within one individual, which are critical qualities for fostering long-term relationships (Bliege Bird et al., 2018). This preference also aligns with psychological desires for belonging and significance: being the recipient of exclusive kindness reinforces our sense of self-worth and security (Chan et al., 2022). Moreover, exclusive kindness can act as a cue that the individual values us uniquely, increasing the likelihood of mutual cooperation and emotional connection, both of which are essential for maintaining stable social and romantic relationships. But, overall, assuming that sexual selection is impelling the extensiveness of kindness, the forces fueling it remain ambiguous.

Existing studies often overlook the critical distinction between altruistic behaviors directed toward others in general versus those explicitly aimed at the recipients themselves. Suppose kindness was merely a display of one's genetic fitness and competency. In that case, we might expect individuals to be more attracted to people who exhibit widespread acts of kindness toward many others, regardless of any direct benefit to themselves. However, this is not typically the case. People may care less about others and simply enjoy being treated nicely. This kindness can be a different signal of dedication and loyalty, potentially more valuable in a long-term

mutual relationship between two. This distinction is essential because, while generalized kindness demonstrates a baseline of fitness, targeted altruism signals a readiness to form reciprocal and supportive bonds. Over time, individuals who exhibited this selective prosociality may have had greater success in creating and maintaining relationships, thus ensuring the survival and propagation of the trait. Therefore, humans may be evolutionarily inclined to prioritize partners who show kindness toward them in particular, interpreting such behavior as a signal of both emotional investment and parental potential rather than a more indiscriminate, generalized generosity.

To test this, one can frame kindness as either a general preference or a targeted signal. Suppose kindness serves as a signal of fitness. In that case, its expression should be less discriminating: a person's kindness would be more broadly directed, with greater kindness shown to a wide range of individuals, amplifying the perceived signal of their positive traits. However, if people just enjoy being treated nicely and that kindness is an individual, it should be more targeted. In this case, kindness would manifest selectively, directed toward individuals with whom forming or maintaining a specific connection holds greater value.

This study aims to investigate how people perceive kindness and whether they place greater value on kindness directed specifically toward themselves versus kindness shown to others in general. Participants will be asked to evaluate hypothetical partners based on descriptions of their prosocial or antisocial behaviors, which vary in terms of the recipients of the kindness. One group of descriptions highlights behaviors where the partner demonstrated altruism and generosity broadly, benefiting strangers and the wider community. In contrast, the other group focuses on kindness explicitly toward the participant. Additionally, participants will also assess antisociality. By comparing participants' reactions to these scenarios, we aim to

understand whether individuals prefer a partner who exhibits kindness on a large, indiscriminate scale or one who reserves their kindness more selectively for the relationship. This approach allows us to explore whether kindness is a signal of robustness or whether we prefer it simply because we are fond of being treated nicely. Together, this investigation contributes to the fundamental vision of human characteristics, suggesting that kindness may be an innate trait because of its beneficial role in mating.

Method

Participants

Participants (N=217) were recruited offline in person and via social media (WeChat). 218 participants (56 Male, 156 Female, 1 Other, 5 Unwilling to disclose) completed all conditions of this study. Among the participants of both surveys, 0.46% were under 18, 6.42% were between 18 and 25, 11.47% were between 26-30, 43.58% were between 31-40, 32.57% were between 41-50, 5.05% were between 51-60, and 0.46% were above the age of 60. We excluded one participant under 18, thus having 217 participants instead of 218. Participants are not required to report the specific ethnic group they identify as. However, they reported their current location of residence, with the majority in Mainland China (98.62%). Furthermore, the participants' sexuality is predominantly heterosexual (94.50%), followed by unwilling-to-disclose (2.75%), bisexual (1.38%), and homosexual (0.92%). Finally, the participants of this study differ in relationship statuses as well. The bulk are married (71.56%), succeeded by not within a relationship (14.68%), within a relationship (8.72%), unwilling to disclose (2.75%), and non-of-the-above (2.29%).

Materials

This between-participant measure incorporated two versions of identical surveys: versions A and B. Each form consists of forty-two questions, with the first six fixating on the participants' consent and demographics, resulting in thirty-six variable questions centered around the core investigation. We came up with forty-seven distinct, original items or stimuli representing some actions and attributes of a potential long-term partner (see Appendix A). The stimuli can be categorized into five classes, including self-positive, self-negative, others-positive, others-negative, and miscellaneous. Self and others represent who the action or attribute is acted upon, with "self" indicating that the description would be performed or demonstrated towards the participant and "others," denoting everyone else but the participant (friends, relatives, and strangers). Positive and negative suggest the nature of the item. Positive items are actions and attributes demonstrating prosociality, and negative items are the antithesis. For instance, the stimulus "being patient with mistakes" has four versions. The self-positive version is "being patient with my mistakes." On the other hand, the self-negative version is "not being patient with my mistakes." The others-positive version is "being patient with others (friends, family, and strangers) mistakes", while the others-negative version is "not being patient with others (friends, family, and strangers) mistakes". We also incorporated several miscellaneous items that are tenuously related to the study's interest to ensure the validity of responses. For example, "ordinary appearance" and "likes rock music" are miscellaneous.

In both surveys, there are seventy-two core questions with merely forty-seven stimuli (twenty-seven excluding the miscellaneous). Each survey has thirty-six core questions because the general idea of the stimuli might repeat, either displayed in a pair of "self-positive" and "others negative" or "self-negative" and "others positive" within the same survey. "Self-positive" and "others-positive" as a pair and "self-negative" and "others-negative" as a pair

usually did not show up within the same survey. As an example, “always considered my feelings (self-positive)” and “always considered the feelings of friends, family, and strangers (others-positive)” appeared in different lists. We designed the surveys and stimuli like this so that the values could be scored regularly and reverse-scored (e.g., a higher score for self-positive indicates a potentially lower score for that same item but self-negative).

Procedures

All participants completed the 47-item survey in either version A or B. The surveys were randomly distributed online, predominantly via social media, and offline in person. We reached out to our friends and family members first. Then, the surveys were spread via the participants' social networks. After receiving either version A or B, the participants had unlimited time to complete the survey. Before the survey began, the participants were informed of the study's confidentiality and offered a choice of whether to continue their participation on the survey's main page. With consent, the participants then responded to five demographic prompts, including their age group, city of residence, sex, sexuality, and current relationship status. After completing the demographic section, the survey explained the numbers on the scale. Finally, the participants responded to 36 core descriptions affiliated with the study's main interest. A rating slider from -3 to 3 was used for the rest of the interested items, -3 indicating that their ideal long-term partner cannot manifest the described attribute or incarnate an action, 0 indicating that it is insignificant, and 3 indicating their aspiration for such characteristic in them. Scores were looked at as separate constructs and altogether based on their corresponding item class.

Data Analytic Plan

The study will conduct descriptive data analysis, including the mean and bar graphs, to gain insight into the four category's respective trends. Then, we conducted inferential data

analysis, such as the t-test, to justify the significance of the values from descriptive data analysis and provoke discussions related to the hypothesis.

Results

The investigation was on whether people are more concerned about whether their partner is kind to them or kind to other people. To address this question, the responses to self-positive and other-positive items rated on a scale of -3 to 3 were compared.

The average value of the self-positive category was 1.42 ($SD=0.810$), and for the negative category was -1.36 ($SD=1.29$). The positive value for others was 0.89 ($SD=0.860$), and the negative was -1.59 ($SD=0.761$). The respondents offered significantly higher ratings to positive characteristics directed at the self ($m=1.42$) than prosociality directed at other people ($m=0.89$), for $t(215) = 4.09$, ($p<.00005$). However, the difference between the rating for antisocial behavior targeted at the self and others was not significant ($p=0.207$).

These findings indicate that participants rated positive behaviors directed at themselves more favorably than those directed at others. However, the aversion to negative behaviors was consistent regardless of whether the behavior targeted the self or others.

Figure 1

The average ratings of prosociality and antisociality targeted at the self compared to others



Note. This figure demonstrates the average ratings of prosocial (positive) and antisocial (negative) behaviors targeted at the self versus others for $N=217$. Participants value prosocial behaviors directly towards themselves ($m=1.41$) significantly more than prosocial behaviors directed at others ($m=0.89$, $p<.00005$). The difference in rating between antisociality directed at self ($m=-1.36$) and others ($m=-1.59$) is not significant ($p=0.207$). Nevertheless, the overall higher positive ratings and lower negative ratings indicate stronger prosocial propensities and weaker antisocial tendencies.

Discussion

This research investigated the significant difference between self-directed kindness versus kindness directed toward others in the context of mating process. In general, we observed

that participants are attracted to people displaying prosocial behaviors and averse to unkindness. If prosociality were merely served as a signal of fitness and competence, then we would have seen people having an unconditional preference for the targets of prosociality. However, that is not the case. Instead, this study shows that people preferred kindness and prosociality directed toward them more than those tailored to their family, friends, and strangers in an ideal partner. This indicates that signaling of evolutionary fitness is insufficient for justifying humans' preference for kindness. It also suggests that exclusive kindness to the recipient is a crucial trait in mating and that it may have persisted due to mechanisms such as sexual selection, as self-directed kindness would be more salutary in a mating context.

Sexual selection is an often overlooked driver of evolution. The idea that people prefer being recipients of prosocial acts might seem trivial at first. However, biologists have witnessed radical changes over a relatively short time due to such preferences, even when those traits decrease overall fitness for survival (Nylin & Gotthard, 1998). Even subtle mate preferences can drive evolutionary change over generations. Over time, this preference would create selective pressure, making blue lips a common trait in the population. This process of sexual selection demonstrates how small, seemingly insignificant preferences can shape the characteristics, behaviors, and even social norms of future generations.

How does humans' preference for exclusive kindness contribute to sexual selection? First, similar to the straightforward justification for the peacock's tail, people just like being treated nicely. Acts of kindness trigger biological responses that foster pleasure and intimacy, such as the release of oxytocin (Staff, 2019). Secondly, sexual selection emphasizes resource allocation as a determinant of mate value. Acts of kindness directed at a partner may signal resource allocation, emotional investment, and long-term commitment, all of which are critical

for fostering stable relationships, ensuring offspring viability, and making the recipient feel more valued and prioritized (Bird et al., 2018). This aligns with Triver's parental investment theory (1972), which posits that individuals are drawn to partners who demonstrate resource commitment and long-term investment. While exclusive kindness toward a partner may be costly in terms of time and resources, it persists because it enhances reproductive success. Research has shown that partners who consistently express kindness to each other experience greater relationship stability, which in turn improves offspring well-being (Gottman & Gottman, 2018). Unlike general prosociality, prioritizing kindness toward a mate ensures direct benefits such as emotional security, cooperative parenting, and increased likelihood of offspring survival. Much like the peacock's tail—a costly yet advantageous trait in sexual selection—exclusive kindness may have evolved as a mechanism to strengthen mate bonds and increase reproductive success.

Furthermore, the significance of exclusive kindness can be linked to the critical role of long-term partnerships in reproductive success and offspring stability. In this context, kindness directed towards oneself demonstrates not only generosity but also reliability and loyalty, traits essential for fostering secure and enduring bonds. Choosing someone more kind toward oneself only has a greater chance of achieving such stability. Finally, it is also important to note that humans exhibit a cognitive bias when evaluating prosociality, particularly kindness directed at themselves. Due to the self-reference effect in emotional processing, prosociality expressed towards oneself is inherently more salient and emotionally impactful, making its subjectivity more significant than merely witnessing others being the recipients of it (Serbun et al., 2011). Self-directed kindness's visible and immediate benefits further amplify its perceived value, as individuals are naturally motivated to seek positivity to protect and preserve their well-being (Catalino et al., 2014). On the whole, these factors recount why kindness directed at one

recipient, despite its potential costs from the giver, remains paramount in mate selection and relationship dynamics.

Interestingly, while participants preferred kindness directed at themselves, they were equally averse to unkindness directed at themselves and others. The difference in prosociality is evident, but the antisocial descriptions repelled the participants equally. This asymmetry, which is persistent among most participants, is intriguing and critical. It may be explained by the negativity bias, where people are more emotionally rejected of adverse incidents despite their targets, an adapted mechanism salutary to survival (Vaish et al., 2008). “It takes many deeds to build a good reputation, and only one bad one to lose it.” (Russoniello, 2010). Moreover, what people seek in others are the underlying traits beneath prosociality. In other words, the worst one can be often reveals their true character (Wrigley, 2019). While kindness may signal generosity and emotional investment, unkindness can be a more potent indicator of deeper flaws, such as selfishness, aggression, or instability. This aligns with the idea that negative behaviors carry more weight in forming impressions and decision-making because they highlight potential risks or incompatibilities that could threaten relational stability. In this context, the equal aversion to unkindness directed at oneself and others may reflect an evolved sensitivity to antisocial traits, regardless of the target. Such vigilance helps individuals avoid forming relationships with those whose negative tendencies could jeopardize their well-being or the harmony of their social group. Thus, this dynamic underscores the complexity of prosocial behavior in mate selection, where both positive and negative traits are weighted to assess compatibility and potential risks.

Despite the preference for kindness, evidently, it does not manifest in everyone. The results also prompt deeper questions about why not everyone exhibits kindness, particularly if it benefits individual success and mating. If prosociality is linked to reproductive advantages, we

might expect everyone to demonstrate kindness towards others, especially in a mate. Like any other trait or behavior, kindness is subject to variations and exceptions. We see cultural and individual differences in the prevalence of altruistic behaviors. Some individuals may be more inclined toward self-interest, influenced by personal beliefs, environmental factors, or societal norms prioritizing competition or individualism over communal welfare (Bowles & Gintis, 2004). Cultural differences further complicate this, as norms around kindness and generosity vary widely, shaping how individuals express prosocial behaviors in different contexts (Fehr et al., 2002).

Humans commit crimes, murders, and violence just like any other species. Nonetheless, humans can display a complex and flexible range of moral behaviors, including kindness. While chimpanzees may act cooperatively in some contexts, they do not exhibit the same degree of moral reasoning or the ability to form deeply altruistic relationships across social boundaries (Silk et al., 2005). The rate of sexual coercion is incredibly high among chimpanzees (Enigk et al., 2021; Muller et al., 2009). It is difficult to imagine female chimpanzees preferring such treatment. But the chimpanzees lack the social structures or mechanisms to change it. Humans, by contrast, have the capacity to engage in moral reflection and cultural learning, which allows for a more sophisticated understanding of kindness and altruism. This capacity enables us to prioritize kindness selectively, depending on the relationship and context, a trait that is not as readily seen in our closest animal relatives (Gottman & Gottman, 2018; Jensen et al., 2006; Silk et al., 2005). This raises the question of why humans are uniquely able to exercise and meet such preferences. Uncovering this could be insightful for the evolutionary and psychological mechanisms that drive human kindness and its role in shaping our species.

Ultimately, as sexual selection justifies the unique prosociality among humans, it pushes kindness towards nature on the nature versus nurture spectrum. This perspective aligns with the innate tendencies observed in human behavior. With the preference of being treated fairly and kindly, we have adapted as it aids mating by signaling reliability, emotional intelligence, and cooperative potential. In fact, little kids have the intrinsic motivation to be kind to others without excessive conditioning or training (Kids Are Not Born, 2020; Sankaran, 2023). Warneken and Tomasello (2009) have concluded that young children have a biological predisposition to help others achieve goals, share resources, and inform others of things helpfully. At the same time, chimpanzees engage in some but not all of these behaviors (Warneken & Tomasello, 2009). This intrinsic kindness, evident even in early childhood, suggests that prosociality is likely not merely a learned behavior but an evolved trait selected.

This study contributes to the discussion of what it means to be human, opening another window into the essence of humanity. Our findings challenge the notion that prosocial behavior is solely a product of nurture or environmental conditioning. Instead, they highlight how sexual selection has shaped kindness as an intrinsic trait, possibly explaining the discreteness of it in our species. As observed in this study, the preference for kindness directed toward oneself further underscores its role in mate selection. To an extent, we have shaped each other into being capable of kindness and prosociality, which reflect a deeper, shared understanding of what is good. By investigating why we are the way we are, we gain a clearer picture of ourselves, which forms the foundation for understanding others. This study challenges us to reconsider the fundamental vision of human nature—perhaps we are not inherently selfish, but rather, possess an intrinsic capacity for goodness.

Finally, we acknowledge the importance of cultural influence in shaping expression of kindness or prosociality. Individualistic and collectivist cultures profoundly impact prosocial behaviors (Aydinli et al., 2013; Schroeder et al., 2015; Zahn-Waxler & Smith, 1992). In collectivist societies, such as China, prosociality is often emphasized through community-oriented values and obligations, which may influence how kindness is perceived and prioritized in relationships (Irwin, 2009; Yang et al., 2024). By contrast, individualistic cultures might place greater value on personal autonomy and individual acts of kindness (Chirkov et al., 2003). These cultural frameworks could affect the degree to which exclusive kindness is valued over-generalized kindness. Consequently, this investigation can be more comprehensive and compelling by incorporating participants worldwide instead of merely China.

Future research could explore how prosociality is developed and expressed across different cultural settings and life stages. Such longitudinal studies tracking prosocial behaviors from childhood through adulthood may provide further insight into the interplay between biological predispositions and environmental influences. Moreover, further exploration can be conducted to investigate how kindness functions in romantic versus platonic relationships, which may further clarify its adaptive significance.

In conclusion, prosociality in all forms, whether directed broadly or exclusively toward a partner, remains vital for nurturing healthy relationships and cohesive societies. Fortunately, unlike many superficial characteristics, such as physical beauty, financial success, and material possessions, kindness is a choice. To be healthy, popular, and in a long-term relationship, one should strive to develop a kind personality. Be kind to everyone, but especially those closest to you.

Acknowledgments

I would like to express my deepest gratitude to Dr. Jason P. Mitchell for his invaluable guidance, feedback, and support throughout the entire course of the research. I am also deeply thankful to Ms. Yiwen Zhang for her assistance with survey design, data collection, and analysis. Finally, I would like to thank my family for their patience, understanding, and unwavering encouragement.

References

- Associated Press. (2020, July 22). France apartment fire: Crowd catches two children in three-storey fall. *The Guardian*. <https://www.theguardian.com/world/2020/jul/23/france-apartment-fire-crowd-catches-two-children-in-three-storey-fall>
- Aydinli, A., Bender, M., & Chasiotis, A. (2013). Helping and volunteering across cultures: Determinants of prosocial behavior. *Online Readings in Psychology and Culture*, 5(3), 1-27. <https://doi.org/10.9707/2307-0919.1118>
- Batson, C. D., & Shaw, L. L. (1991). Evidence for altruism: Toward a pluralism of prosocial motives. *Psychological Inquiry*, 2(2), 107–122. https://doi.org/10.1207/s15327965pli0202_1
- Bhagal, M. S., Farrelly, D., & Galbraith, N. (2019). The role of prosocial behaviors in mate choice: A critical review of the literature. *Current Psychology*, 38(4), 1062–1075. <https://doi.org/10.1007/s12144-019-00308-8>
- Bliege Bird, R., Ready, E., & Power, E. A. (2018). The social significance of subtle signals. *Nature Human Behaviour*, 2(7), 452-457. <https://doi.org/10.1038/s41562-018-0298-3>
- Bonnie, K. E., & de Waal, F. B. (2004). 11 primate social reciprocity and the origin of gratitude. In R. A. Emmons & M. E. McCullough (Eds.), *The psychology of gratitude*. Oxford University Press. https://books.google.com.sg/books?id=zBZnDAAAQBAJ&dq=Humans+help+each+other+even+without+expecting+return&lr=&source=gbs_navlinks_s
- Boog, D. A., Egas, M., & Ploeger, A. (2024). Displaying altruism as a sexual signal in human mate choice is an adaptation – an interdisciplinary overview of the evidence.

Evolutionary Psychological Science, 10(4), 397-415. <https://doi.org/10.1007/s40806-024-00415-1>

Bowles, S., & Gintis, H. (2004). The evolution of strong reciprocity: Cooperation in heterogeneous populations. *Theoretical Population Biology*, 65(1), 17–28.
<https://doi.org/10.1016/j.tpb.2003.07.001>

Caplan, A. (1976). Ethics, evolution, and the milk of human kindness. *The Hastings Center Report*, 6(2), 20. <https://doi.org/10.2307/3561495>

Catalino, L. I., Algoe, S. B., & Fredrickson, B. L. (2014). Prioritizing positivity: An effective approach to pursuing happiness? *Emotion*, 14(6), 1155-1161.
<https://doi.org/10.1037/a0038029>

Cedars-Sinai Staff. (2019, February 13). The science of kindness. *Cedars Sinai*.
<https://www.cedars-sinai.org/blog/science-of-kindness.html>

Chan, K. K. S., Lee, J. C.-K., Yu, E. K. W., Chan, A. W. Y., Leung, A. N. M., Cheung, R. Y. M., Li, C. W., Kong, R. H.-M., Chen, J., Wan, S. L. Y., Tang, C. H. Y., Yum, Y. N., Jiang, D., Wang, L., & Tse, C. Y. (2022). The impact of compassion from others and self-compassion on psychological distress, flourishing, and meaning in life among university students. *Mindfulness*, 13(6), 1490-1498. <https://doi.org/10.1007/s12671-022-01891-x>

Charitable giving statistics [Fact sheet]. (2024). National Philanthropic Trust. Retrieved December 31, 2024, from <https://www.nptrust.org/philanthropic-resources/charitable-giving-statistics/>

Charities Aid Foundation. (2024). *World Giving Index 2024*. Charities Aid Foundation.
https://www.cafonline.org/docs/default-source/inside-giving/wgi/wgi_2024_report.pdf

- Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, 84(1), 97-110. <https://doi.org/10.1037/0022-3514.84.1.97>
- Cronin, H. (1999). *The ant and the peacock: altruism and sexual selection from Darwin to today*. Cambridge University Press.
https://books.google.com.sg/books?hl=en&lr=&id=y0wTY3z3nggC&oi=fnd&pg=PR9&dq=The+ant+and+the+peacock&ots=NcY7mQZ4TF&sig=_P9kWLTCKUrcFcCO7hlQQBjXf0w&redir_esc=y#v=onepage&q&f=false
- Curry, O. S., Rowland, L. A., Van Lissa, C. J., Zlotowitz, S., McAlaney, J., & Whitehouse, H. (2018). Happy to help? A systematic review and meta-analysis of the effects of performing acts of kindness on the well-being of the actor. *Journal of Experimental Social Psychology*, 76, 320–329. <https://doi.org/10.1016/j.jesp.2018.02.014>
- Darwin, C. (1872). *The descent of man, and selection in relation to sex* (Vol. 2). D. Appleton. Chicago
- Dugatkin, L. A. (2007). Inclusive fitness theory from Darwin to Hamilton. *Genetics*, 176(3), 1375–1380. <https://doi.org/10.1093/genetics/176.3.1375>
- Ehlebracht, D. (2013). *Doing good does you good: Prosocial behavior as a sexual and social signal* (Doctoral dissertation, Universität zu Köln). Chicago
- Ehlebracht, D., Stavrova, O., Fetchenhauer, D., & Farrelly, D. (2017). The synergistic effect of prosociality and physical attractiveness on mate desirability. *British Journal of Psychology*, 109(3), 517-537. <https://doi.org/10.1111/bjop.12285>

- Enigk, D. K., Emery Thompson, M., Machanda, Z. P., Wrangham, R. W., & Muller, M. N. (2021). Female-directed aggression by adolescent male chimpanzees primarily constitutes dominance striving, not sexual coercion. *American Journal of Physical Anthropology*, 176(1), 66–79. <https://doi.org/10.1002/ajpa.24296>
- Fehr, E., & Fischbacher, U. (2003). The nature of human altruism. *Nature*, 425(6960), 785-791. <https://doi.org/10.1038/nature02043>
- Fehr, E., Fischbacher, U., & Gächter, S. (2002). Strong reciprocity, human cooperation, and the enforcement of social norms. *Human Nature*, 13(1), 1-25. <https://doi.org/10.1007/s12110-002-1012-7>
- Gintis, H., Bowles, S., Boyd, R., & Fehr, E. (2003). Explaining altruistic behavior in humans. *Evolution and Human Behavior*, 24(3), 153–172. [https://doi.org/10.1016/s1090-5138\(02\)00157-5](https://doi.org/10.1016/s1090-5138(02)00157-5)
- Gottman, J. M., & Gottman, J. S. (2018). *The science of couples and family therapy: behind the scenes at the love lab*. W.W Norton & Company.
- Griffith, S. C. (1998). *Sexual selection in the house sparrow, Passer domesticus*. University of Leicester (United Kingdom)
- Hamburg, D. A. (1972). AGGRESSIVE BEHAVIOR OF CHIMPANZEES AND BABOONS IN NATURAL HABITATS. *Principles, Practices, and Positions in Neuropsychiatric Research*, 385-398. <https://doi.org/10.1016/b978-0-08-017007-7.50022-7>
- Hamilton, D. R. (2021). *The five side effects of kindness: This book will make you feel better, be happier, and live longer*. Hay House. <https://books.google.co.jp/books?hl=en&lr=&id=yuY9EAAAQBAJ&oi=fnd&pg=PR15&dq=The+Five+Side+Effects+of+Kindness&ots=caA4TaQ->

Lb&sig=oYDdc47yZ2H8N1fVYVkv3VtY&redir_esc=y#v=onepage&q=The%20Five%20Side%20Effects%20of%20Kindness&f=false

- Hamilton, W. D. (1963). The evolution of altruistic behavior. *The American Naturalist*, 97(896), 354–356. <https://doi.org/10.1086/497114>
- Henshaw, J. M., Fromhage, L., & Jones, A. G. (2022). The evolution of mating preferences for genetic attractiveness and quality in the presence of sensory bias. *Proceedings of the National Academy of Sciences*, 119(33). <https://doi.org/10.1073/pnas.2206262119>
- Hepach, R., & Warneken, F. (2018). Editorial overview: Early development of prosocial behavior: Revealing the foundation of human prosociality. *Current Opinion in Psychology*, 20, iv-viii. <https://doi.org/10.1016/j.copsyc.2018.02.001>
- Irwin, K. (2009). Prosocial behavior across cultures: The effects of institutional versus generalized trust. In S. R. Thye & E. J. Lawler (Eds.), *Altruism and prosocial behavior in groups: Vol. 26. Advances in Group Processes* (pp. 165–198). Emerald.
- Jensen, K., Hare, B., Call, J., & Tomasello, M. (2006). What's in it for me? Self-regard precludes altruism and spite in chimpanzees. *Proceedings of the Royal Society B: Biological Sciences*, 273(1589), 1013–1021. <https://doi.org/10.1098/rspb.2005.3417>
- Kelley, D. B., & Gorlick, D. L. (1990). Sexual selection and the nervous system. *BioScience*, 40(4), 275-283. <https://doi.org/10.2307/1311264>
- Kids are not born selfish. Here's how to keep them that way.* (2020, July 29). Retrieved January 1, 2025, from <https://lsa.umich.edu/psych/news-events/all-news/faculty-news/kids-are-not-born-selfish--here-s-how-to-keep-them-that-way-.html>
- Lande, R. (1980). Sexual dimorphism, sexual selection, and adaptation in polygenic characters. *Evolution*, 34(2), 292–305. <https://doi.org/10.2307/2407393>

- Lewis, H. M., Vinicius, L., Strods, J., Mace, R., & Migliano, A. B. (2014). High mobility explains demand sharing and enforced cooperation in egalitarian hunter-gatherers. *Nature Communications*, 5(1). <https://doi.org/10.1038/ncomms6789>
- Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and luxuries of mate preferences: Testing the tradeoffs. *Journal of Personality and Social Psychology*, 82(6), 947-955. <https://doi.org/10.1037/0022-3514.82.6.947>
- Margana, L., Bhogal, M. S., Bartlett, J. E., & Farrelly, D. (2019). The roles of altruism, heroism, and physical attractiveness in female mate choice. *Personality and Individual Differences*, 137, 126–130. <https://doi.org/10.1016/j.paid.2018.08.018>
- Miller, G. (2007). Sexual selection for moral virtues. *The Quarterly Review of Biology*, 82(2), 97–125. <https://doi.org/10.1086/517857>
- Muller, M. N., Kahlenberg, S. M., & Wrangham, R. W. (2009). Male aggression against females and sexual coercion in chimpanzees. *Sexual Coercion in Primates and Humans*, 184–217. <https://doi.org/10.4159/9780674054349-008>
- Nylin, S., & Gotthard, K. (1998). Plasticity in life-history traits. *Annual Review of Entomology*, 43(1), 63-83. <https://doi.org/10.1146/annurev.ento.43.1.63>
- Okasha, S. (2006). The group selection controversy. In *Evolution and the levels of selection* (pp. 173–202). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199267972.003.0006>
- Okasha, S. (2018). Social evolution, Hamilton's rule, and inclusive fitness. In *Agents and Goals in Evolution* (pp. 117–146). Oxford University Press. <https://doi.org/10.1093/oso/9780198815082.003.0006>
- Packer, C. (1986). Whatever happened to reciprocal altruism?.

- Packer, C. (1988). Constraints on the evolution of reciprocity: Lessons from cooperative hunting. *Ethology and Sociobiology*, 9(2-4), 137–147. [https://doi.org/10.1016/0162-3095\(88\)90018-0](https://doi.org/10.1016/0162-3095(88)90018-0)
- Park, N., Peterson, C., & Seligman, M. E. P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, 23(5), 603-619. <https://doi.org/10.1521/jscp.23.5.603.50748>
- Pearce, A. R., Chuikova, T., Ramsey, A., & Galyautdinova, S. (2010). A positive psychology perspective on mate preferences in the United States and Russia. *Journal of Cross-Cultural Psychology*, 41(5-6), 742–757. <https://doi.org/10.1177/0022022110361775>
- Pereda, M., Zurro, D., Santos, J. I., Briz i Godino, I., Álvarez, M., Caro, J., & Galán, J. M. (2017). Emergence and evolution of cooperation under resource pressure. *Scientific Reports*, 7(1). <https://doi.org/10.1038/srep45574>
- Petrie, M. (2021). Evolution by sexual selection. *Frontiers in Ecology and Evolution*, 9. <https://doi.org/10.3389/fevo.2021.786868>
- Petrie, M., Tim, H., & Carolyn, S. (1991). Peahens prefer peacocks with elaborate trains. *Animal Behaviour*, 41(2), 323–331. [https://doi.org/10.1016/s0003-3472\(05\)80484-1](https://doi.org/10.1016/s0003-3472(05)80484-1)
- Phillips, T. (2017). The concepts of asymmetric and symmetric power can help resolve the puzzle of altruistic and cooperative behaviour. *Biological Reviews*, 93(1), 457–468. <https://doi.org/10.1111/brv.12352>
- Puts, D. (2016). Human sexual selection. *Current Opinion in Psychology*, 7, 28-32. <https://doi.org/10.1016/j.copsyc.2015.07.011>

- Raihani, N. J., & Power, E. A. (2021). No good deed goes unpunished: The social costs of prosocial behaviour. *Evolutionary Human Sciences*, 3.
<https://doi.org/10.1017/ehs.2021.35>
- Russoniello, S. (2010, June 14). "It takes many good deeds to build a good reputation, and only one bad one to lose it." — Benjamin Franklin. *Penn & Beyond*.
<https://ulife.vpul.upenn.edu/careerservices/blog/2010/06/14/it-takes-many-good-deeds-to-build-a-good-reputation-and-only-one-bad-one-to-lose-it-benjamin-franklin/>
- Sandel, A. A., & Watts, D. P. (2021). Lethal coalitionary aggression associated with community fission in chimpanzees (*Pan troglodytes*) at Ngogo, Kibale National Park, Uganda. *International Journal of Primatology*, 42(1), 26–48. <https://doi.org/10.1007/s10764-020-00185-0>
- Sankaran, V. (2023, February 16). Study finds children are naturally disposed to help others – with one exception. *Independent*. <https://www.independent.co.uk/news/science/children-naturally-help-others-one-exception-b2283327.html>
- Schroeder, D. A., Graziano, W. G., Feygina, I., & Henry, P. (2015). Culture and prosocial behavior [Abstract]. *The Oxford Handbook of Prosocial Behavior*, 188-208.
<https://doi.org/10.1093/oxfordhb/9780195399813.013.009>
- Schroeder, D. A., Graziano, W. G., Feygina, I., & Henry, P. (2015). Culture and prosocial behavior. In *The Oxford Handbook of prosocial behavior* (pp. 188-208). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780195399813.013.009>
- Serbun, S. J., Shih, J. Y., & Gutchess, A. H. (2011). Memory for details with self-referencing. *Memory*, 19(8), 1004-1014. <https://doi.org/10.1080/09658211.2011.626429>

- Silk, J. B., Brosnan, S. F., Vonk, J., Henrich, J., Povinelli, D. J., Richardson, A. S., Lambeth, S. P., Mascaró, J., & Schapiro, S. J. (2005). Chimpanzees are indifferent to the welfare of unrelated group members. *Nature*, 437(7063), 1357–1359.
<https://doi.org/10.1038/nature04243>
- Stavrova, O., & Ehlebracht, D. (2015). A longitudinal analysis of romantic relationship formation. *Social Psychological and Personality Science*, 6(5), 521-527.
<https://doi.org/10.1177/1948550614568867>
- Trivers, R. (Ed.). (2002). *Natural selection and social theory*. Oxford University Press New York, NY. <https://doi.org/10.1093/oso/9780195130614.001.0001>
- Trivers, R. L. (1971). The evolution of reciprocal altruism. *The Quarterly Review of Biology*, 46(1), 35–57. <https://doi.org/10.1086/406755>
- Trivers, R. L. (2017). Parental investment and sexual selection. In *Sexual selection and the descent of man: The Darwinian pivot* (pp. 136–179). Routledge, Taylor and Francis Group.
- Vaish, A., Grossmann, T., & Woodward, A. (2008). Not all emotions are created equal: the negativity bias in social-emotional development. *Psychological bulletin*, 134(3), 383.
- Wadhwa, D. (2020). A Darwinian selection-based explanation of peacock's tail. *bioRxiv*.
<https://doi.org/10.1101/2020.05.12.086520>
- Warneken, F., & Tomasello, M. (2009). The roots of human altruism. *British Journal of Psychology*, 100(3), 455-471. <https://doi.org/10.1348/000712608x379061>
- Warneken, F., & Tomasello, M. (2009). Varieties of altruism in children and chimpanzees. *Trends in Cognitive Sciences*, 13(9), 397-402. <https://doi.org/10.1016/j.tics.2009.06.008>

- Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, 98(2), 222-244. <https://doi.org/10.1037/a0016984>
- Widlok, T. (2013). Sharing: Allowing others to take what is valued. *HAU: Journal of Ethnographic Theory*, 3(2), 11–31. <https://doi.org/10.14318/hau3.2.003>
- Wilson, D. S. (1975). A theory of group selection. *Proceedings of the National Academy of Sciences*, 72(1), 143–146. <https://doi.org/10.1073/pnas.72.1.143>
- Wilson, D. S., & Wilson, E. O. (2007). Evolution: Survival of the Selfless. *New Scientist*, 196(2628), 42–46. [https://doi.org/10.1016/s0262-4079\(07\)62792-4](https://doi.org/10.1016/s0262-4079(07)62792-4)
- Wrigley, C. (2019). A wolf in sheep's clothing: Design by any other name. *Journal of Design, Business & Society*, 5(1), 3–5. https://doi.org/10.1386/dbs.5.1.3_2
- Yamamoto, S., Humle, T., & Tanaka, M. (2009). Chimpanzees help each other upon request. *PLoS ONE*, 4(10). <https://doi.org/10.1371/annotation/80db4649-46c1-40af-851b-f01968eec5d7>
- Yang, D., Yu, Z., & He, X. (2024). Unveiling unexpected selfless collectivism: exploring variances in moral beliefs across cultural values. *Psychology Research and Behavior Management*, 2835-2851.
- Zahn-Waxler, C., & Smith, K. D. (1992). The development of prosocial behavior. In *Handbook of Social Development: A Lifespan perspective* (pp. 229-256). Springer US. https://link.springer.com/chapter/10.1007/978-1-4899-0694-6_10

Appendix

Survey Items and Respective Average Rating

Item Description	Item Coding	Average	Recipient	Nature of Actions
Consider the feelings of friends, family, and strangers	Item_01	1.74684	Others	Positive
Say “thank you” often and sincerely to friends, family, and strangers	Item_02	1.55696	Others	Positive
Be open to the ideas and actions of friends, family, and strangers	Item_03	1.53333	Others	Positive
Be patient with other people’s mistakes	Item_04	1.34810	Others	Positive
Being rude to friends, family, and strangers	Item_05	-2.25000	Others	Negative
Being unkind to friends, family, and strangers	Item_07	-2.43333	Others	Negative
Encourage growth among friends, family, and strangers	Item_09	1.73418	Others	Positive
Give food/money to the homeless	Item_10	0.45000	Others	Positive
Shows a keen interest in what friends, family, and strangers say	Item_11	1.02532	Others	Positive
Give hugs to friends, family and strangers	Item_12	0.36076	Others	Positive
Ignore friends, family, or strangers if they are in trouble	Item_14	-2.08333	Others	Negative
Show kindness to your colleagues (e.g., kind notes and notes)	Item_16	0.71519	Others	Positive
Make an effort to include friends, family, and strangers in new situations/conversations and make them feel valued	Item_19	1.10127	Others	Positive

Never apologize to friends, family, or strangers	Item 20	-2.28333	Others	Negative
Never offer praise and encouragement to friends, family, and strangers	Item 21	-2.18333	Others	Negative
Never send flowers to friends, family or strangers	Item 22	-0.66667	Others	Negative
Not being generous to friends, family, and strangers	Item 23	-1.36667	Others	Negative
Not caring about the personal space of friends, family, and strangers	Item 24	-1.56667	Others	Negative
Not giving up seats on public transportation to people in need	Item 25	-1.46667	Others	Negative
Not paying attention to what friends, family, and strangers say	Item 26	-1.61667	Others	Negative
Open the door for friends, family, and strangers	Item 28	0.50633	Others	Positive
Share an umbrella with a stranger in the rain	Item 30	0.01266	Others	Positive
Tell me other people's secrets	Item 32	0.31667	Others	Negative
Is selfless towards others	Item 34	0.72152	Others	Positive
Write handwritten thank you notes to parents, friends and strangers	Item 35	-0.20253	Others	Positive
Doesn't easily forgive friends, family, or strangers	Item 36	-1.38333	Others	Negative
Never participated in community volunteer activities	Item 44	-0.24684	Others	Negative
Always consider my feelings	Item 01	1.86667	Self	Positive
Always say "thank you" to me sincerely	Item 02	0.88333	Self	Positive

Accept and support my thoughts and actions	Item_03	1.81646	<i>Self</i>	Positive
Be patient with my mistakes	Item_04	2.01667	<i>Self</i>	Positive
Being rude to me	Item_05	-1.52532	<i>Self</i>	Negative
Being unkind to me	Item_07	-1.80380	<i>Self</i>	Negative
Encourage my growth	Item_09	1.96667	<i>Self</i>	Positive
Is very interested in what I say	Item_11	1.61667	<i>Self</i>	Positive
Hugs me often	Item_12	1.56667	<i>Self</i>	Positive
Ignores me when I'm in trouble	Item_14	-1.71519	<i>Self</i>	Negative
Leaves me a kind note	Item_16	0.83333	<i>Self</i>	Positive
Makes an effort to integrate me into new situations/conversations and make me feel valued	Item_19	1.50000	<i>Self</i>	Positive
Never apologizes to me first	Item_20	-1.39241	<i>Self</i>	Negative
Never gives me real praise or encouragement	Item_21	-1.56329	<i>Self</i>	Negative
Never sends me flowers	Item_22	-0.86076	<i>Self</i>	Negative
Not generous to me	Item_23	-1.63924	<i>Self</i>	Negative
Not caring about my personal space	Item_24	-0.51899	<i>Self</i>	Negative
Doesn't help me with the little things in life, even though I need him	Item_25	-1.30380	<i>Self</i>	Negative
Doesn't pay attention to me when I'm talking	Item_26	-1.41139	<i>Self</i>	Negative
Opens the door for me	Item_28	1.16667	<i>Self</i>	Positive
Shares an umbrella with me in the rain	Item_30	1.95000	<i>Self</i>	Positive
Tell others my secrets	Item_32	-1.75316	<i>Self</i>	Negative
Very selfless to me	Item_34	1.58333	<i>Self</i>	Positive
Writes to me	Item_35	0.16667	<i>Self</i>	Positive
Don't forgive me easily	Item_36	-0.86076	<i>Self</i>	Negative
Being stingy with money	Item_06	-1.93333	X	Negative
Clingy	Item_08	0.03333	X	Negative
Likes classical music	Item_13	0.18333	X	Negative
Is a terrible cook	Item_15	-0.63333	X	Negative

Likes art	Item 17	0.41667	X	Positive
Likes rock music	Item 18	-0.25000	X	Positive
Not wearing fashionable clothes	Item 27	-0.41667	X	Positive
Possess a house	Item 29	1.15000	X	Positive
Smile at strangers	Item 31	0.36667	X	Positive
Unpopularity among friends, family, and strangers	Item 33	-2.16667	X	Negative
Is a positive person	Item 37	2.09494	X	Positive
Is an interesting person	Item 38	1.43671	X	Positive
Is an introvert	Item 39	-0.44304	X	X
Emotional instability	Item 40	-1.48101	X	Negative
Generally optimistic about life	Item 41	1.93671	X	Positive
Good figure	Item 42	0.82911	X	Positive
Like sports or fitness	Item 43	0.92405	X	Positive
No sense of humor	Item 45	-0.96203	X	Negative
Ordinary appearance	Item 46	-0.34810	X	Negative
Rarely makes me laugh	Item 47	-1.51266	X	Negative

Note. The identical descriptions are coded with the same item code, with the only difference being the recipient of it. The self/others column indicates the recipient of the prosocial/antisocial behaviors, while the positive/negative column reveals the nature of the behaviors (either prosocial or antisocial). “X” represents the miscellaneous items that are tangential or not central to the primary investigation. Items that appeared in survey A are in a navy blue and bolded font, while items from survey B are in an orange and regular font.