

KOHLBERG'S MORAL DEVELOPMENT THEORY AND EVOLUTIONARY MORALITY MODEL ON VIEWS OF HOMOSEXUALITY

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ABSTRACT

The most well-known theory of morality is Lawrence Kohlberg's stage theory of moral development. However, Kohlberg's theory does not come without criticism. Other theorists and researchers have suggested that Kohlberg's theory is very much "Westernized" and therefore, cannot be considered universal. Gilligan (1982) criticized Kohlberg for his use of mainly male participants and thereby having a male biased theory. Criticisms of Kohlberg's model are discussed as well as the utility of using an evolutionary framework for morality. Differing perspectives on the morality of homosexuality are analyzed as an example of a situation in which individuals may utilize lower stage moral reasoning, despite having otherwise progressed through the sequential order. Disgust as it pertains to out-group discrimination is also discussed. Determining an understanding of evolutionary explanations for disgust towards homosexuality can aid in lowering rates of discrimination or the belief that homosexuality is morally wrong. Applications for lowering discrimination such as exposure to out-groups is discussed as well as potential avenues for future research.

Keywords: *morality, stage theory, Kohlberg, homosexuality.*

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Mathes (2019) identified a trend in which evolutionary psychology has been utilized to align distal causes with proximal ones for classic psychological theories. Kohlberg hypothesized that moral development was a product of proximal causes such as cognitive development and social experience, but did not identify any distal causes (Mathes, 2019). One aim of this paper is to consider Kohlberg's theory through an evolutionary lens and continue the discussion of distal causes for morality. In addition, while some research has focused on the criticism of Kohlberg's model and called for a different approach, little research has focused on connecting the stages of morality to real-life scenarios such as discrimination. Therefore, the second aim of this paper is to suggest how morality from an evolutionary psychology perspective can aid in explaining why some individuals see homosexuality as being morally wrong. This seems pertinent since as much as 35% of the population in the US believes homosexuality to be morally wrong (Gallup, 2019).

KOHLBERG'S STAGES OF MORAL DEVELOPMENT

Lawrence Kohlberg believed his stages represented the transformations that occur in a person's structure of thought regarding morality and moral thinking (Kohlberg & Hersh, 1977). Kohlberg argued that an individual's movement through his stages should always be forward because each stage presupposes the understanding gained at previous stages. He also suggested that there is no guarantee an individual will reach the third and highest level (Kohlberg, 1971).

The Pre-conventional Level.

Kohlberg's theory includes three levels and six stages. In the pre-conventional level, children are responsive to cultural rules and an understanding of right and wrong. This level is divided into two stages: the punishment and obedience orientation (Stage 1) and the instrumental relativist orientation (Stage 2). In Stage 1, physical consequences of action are the determinants of its goodness or badness regardless of human moral meaning or value of these consequences. In Stage 2, right or moral action consists of what satisfies one's own needs and sometimes the needs of others. Reciprocity in this stage is defined not in terms of loyalty or justice, but in terms of doing something for the other to receive something in return (Kohlberg, 1971).

Conventional Level.

At this level, the individual maintains a conformity and loyalty to personal expectations and social order. This level consists of two stages: the "good boy-nice girl" orientation (Stage 3) and the "law and order" orientation (Stage 4). In Stage 3, good behavior pleases and helps others. Individuals at this stage conform to stereotypical images of what is considered "natural" behavior. In Stage 4, moral behavior consists of doing one's duty, showing respect for authority, and maintaining the social order for one's own sake (Kohlberg, 1971).

Post-Conventional, Autonomous, or Principled Level.

At the third level, an individual will try to define moral values that are valid and applicable apart from his or her authority figures and social group. This level has two stages: the social-contract legalistic orientation (Stage 5) and the universal ethical-principle orientation (Stage 6). In Stage 5, the individual defines moral rightness in terms of individual rights and standards that have been critically examined and agreed upon by society. In Stage 6, the individual defines moral rightness by the decisions of conscience in accordance with self-chosen ethical principles. These principles are abstract and ethical rather than concrete, and appeal to logical comprehensiveness, universality, and consistency (Kohlberg, 1971).

Evidence.

Empirical evidence for Kohlberg's theory of moral development is mixed. Kohlberg himself conducted numerous studies including a longitudinal study with males ranging in age from primary school through mid-to-late 20's and cross-cultural studies including Turkish, Taiwanese, and Malaysian children. To test his theory, Kohlberg presented participants with moral dilemmas and he looked to see how people resolved the conflicts. The most well-known of these dilemmas is the Heinz Dilemma, in which a woman's husband breaks into a pharmacy to steal a life-saving drug for his dying wife. From these studies, Kohlberg (1981) concluded that there is a universal set of moral principles held by people in these various cultures because all cultures have similar sources of social interaction, role taking, and social conflict which require moral integration. He also found that moral judgment was positively correlated with age, socioeconomic status, IQ, and education (Colby et al., 1983). In two of his longitudinal studies, many participants either remained at the same stage or advanced one stage, while others were shown to skip a stage entirely, while others still were shown to regress (Kohlberg & Kramer, 1969). Kohlberg later hypothesized that these anomalies were the result of incorrect conceptualization of the stages rather than being evidence of true regression (Colby et al., 1983).

A study done over a 12-year period in Turkey with 23 boys ranging in age from 10 to 17 showed no stage skipping and only one instance of regression (Nisan & Kohlberg, 1982). A study done by Snarey (1982) over a period of 10 years with 96 girls and boys from Israel found no stage skipping and regression in only 5% of cases. Another study carried out by Holstein (1976) which took place over a period of three years with 52 13-year-old boys and girls found both skipped stages and regressions. Additionally, age and sex differences in the frequency of stage skipping was observed. Other cross-cultural studies have also found evidence of regression (White et al., 1978; Gilligan & Murphy, 1979). It is unclear whether these contrasting findings are methodological in nature due to issues with scoring systems or whether they are due to the theory itself.

CRITICISMS OF KOHLBERG

Kohlberg has received much criticism for his theory for having issues with reliability and validity in his studies and a lack of universality in culture and gender. Originally, Kohlberg's method to coding interviews yielded a number of sequence anomalies

(Colby et al., 1983). Kurtines and Grief (1974) have criticized these methods due to non-standardization of the interview and coding scheme, questionable reliability of the coding scheme due to subjectivity and complexity, and questionable validity of the coding scheme due to a failure to present clear evidence of invariant stage sequence.

Carol Gilligan (1982) criticized Kohlberg's theory of justice as being representational of a male-oriented basis for conflict resolution. Gilligan developed her own theory of morality which consisted of masculine and feminine "moral voices." The masculine voice is logical and individualistic and therefore protecting the rights of others and making sure justice is upheld are emphasized in moral decisions. The feminine voice is care oriented and focuses on the needs of others and therefore protecting interpersonal relationships is emphasized in moral decision making. Gilligan argued that Kohlberg's theory only emphasized the masculine voice and therefore did not extend to females (Gilligan, 1982).

Gilligan also argued that Kohlberg's scoring system favors men, resulting in the appearance that women's moral reasoning is inferior to men's. One potential explanation for this favoritism offered by Buress and colleagues (2002), is the lack of educational opportunities for women during the years of the Kohlberg studies. Buress and colleagues (2002) also suggested that the moral orientation used by men and women may be related to the type of moral issues discussed (e.g. personal, impersonal, hypothetical, or real). For example, women's focus on interpersonal moral issues may aid them in thinking about moral dilemmas from a societal or postconventional point of view. Overall, it seems that the issue of gender differences in moral development is complex, something not addressed much by Kohlberg himself.

Kohlberg has also received much criticism for articulating the moral values of only the middle class and the "Western world." Kohlberg stated that he thought that values varied from culture to culture but argued that his developmental sequence of morality was universal across cultures (Kohlberg & Hersh, 1977). Kohlberg argued that whether an individual reached the third level depended on the perspective-taking opportunities afforded by particular social environments. He suggested that individuals from less "complex" cultures such as the semi-literate peasant village he studied, would not be expected to reach the highest stages in his theory. Snarey (1985) disagreed that cultural groups could be categorized as being complex based on whether or not some members reach stages five or six. He further argued that Kohlberg's theory held a monocultural bias with post-conventional reasoning being based solely on that of Western philosophers such as Kant. As a result, non-Western philosophies were not included in Kohlberg's scoring manual and therefore postconventional moral reasoning was uncommonly seen within some of the cultures he studied.

Another criticism of Kohlberg's theory is centered around the idea that individuals do not always use moral reasoning in the same way for every situation (Krebs & Denton, 2005). Research has found that people tend to make lower stage moral judgements when faced with more "real-life dilemmas" such as drinking and driving (Krebs et al., 1991). One issue that has been highlighted with using hypothetical scenarios is that they tend to allow participants to philosophize about morality in ideal contexts for nonconsequential choices using fictional characters in a fictional moral dilemma. People may be tempted to play the philosopher if invited, though they will likely not be given this same opportunity in their everyday lives (Krebs & Denton, 2005). Another issue may be impression

management, in that in Kohlberg's hypothetical scenarios, people make different kinds of moral decisions in order to impress different recipients (Johnson & Hogan, 1981). Other ways that real life dilemmas and hypothetical dilemmas differ is in real life, the decision maker usually shares a relationship with, has feelings for, or has a history of past interactions with their objects of moral judgements. Additionally, those who make the real-life moral decisions are usually involved in the moral conflict. As a result, the individual has a vested interest in the outcome.

Real-life scenarios also tend to illicit strong emotions which could affect decision making (Nesse 2001; Krebs and Denton, 2005). Additionally, individuals tend to make different kinds of moral judgements regarding themselves compared to moral judgements regarding others. Overall, it seems that individuals tend to retain old structures of moral judgement even after developing new ones. At times, people may even act without engaging in moral reasoning and then retroactively invoke moral judgements to justify their decisions (Krebs, 2005).

EVOLUTIONARY THEORY OF MORALITY

As a result of the issues described above, it may be wise to take a different approach to morality. One such approach follows a psychological evolutionary model which can help account for issues of universality in Kohlberg's model (Krebs, 2005). Evolutionary psychological theories are concerned with the mental mechanisms that individuals inherit and the behavioral strategies these mechanisms contain. According to Buss (1999), evolved psychological mechanisms are shaped by the ways in which they recurrently solved specific adaptive problems over the evolutionary history of the species. These mechanisms are activated by narrow segments of information and have input which pertains to the particular adaptive problems they were designed to solve. Additionally, these psychological mechanisms can be transformed into an output by a set of "if-then" rules.

Kohlbergians assume that structures of moral judgement develop through cognitive processes such as assimilation and accommodation. The function of these processes is to enable people to deduce the most moral solution when faced with moral problems. Evolutionary theorists assume that evolved mechanisms that originate from genetic variations selected in ancestral environments help individuals solve real-life adaptive problems. Kohlbergians would assume that all moral judgments people make stem from the same structure of moral judgement and therefore there is no reason to expect differences between moral judgements individuals make about themselves and those they make about others. Nor would it be expected that individuals make different moral judgements in hypothetical (e.g. the Heinz Dilemma) versus those scenarios they may experience in their everyday lives (e.g. drinking and driving). Evolutionary psychologists would instead suggest that the form of judgements people make about their rights and duties would be expected to be more selfish than the judgements they make about the rights and duties of others. This is because individuals are motivated to advance their own interests (Kreb & Denton, 2005).

In a biological sense, moral judgements are a form of communication (Krebs, 2005). Due to humans' large brains, they can employ a large range of manipulative

communication strategies. Individuals could use this ability to propagate their genes, though this poses a problem for cooperation mechanisms. Therefore, Krebs (2005) hypothesized that the function of morality is to uphold fitness-enhancing systems of cooperation. As an example, people may use abstract judgments such as “honesty is the best policy” in order to induce recipients to uphold systems of cooperation from which they will benefit (Krebs, 2005).

The most effective moral judgements should prescribe behaviors that foster the interests of senders as well as the interests of the recipients. In addition, it would be expected that people make the kinds of moral judgements that contain the greatest potential to foster their biological interests, but also depend on the “if” conditions implicit in the problems they encounter. For example, those relatively equal in power should be more likely to make Stage 2 judgements to each other because that would uphold mutually beneficial deals. In contrast, powerful members of groups should make Stage 1 judgements that force weaker members to obey authority to avoid punishment (Krebs, 2005).

KOHLBERG’S STAGES FROM AN EVOLUTIONARY VIEWPOINT

In Stage 1 of Kohlberg’s theory, moral judgements prescribe obeying those who are more powerful to avoid punishment. Krebs (2005) argues that weaker members of a group are faced with a choice to defer to those more powerful or suffer the consequences. It is therefore more adaptive for these members to submit to the authority of more dominant members to make the best of a bad situation and to survive another day.

Research suggests that humans are not the only species to have developed these mental mechanisms that give rise to submissive and subordinate behavior. In some species such as chimpanzees, these mental mechanisms produce dominance hierarchies (Krebs, 2005). Punishment acts to support cooperation in that it may provide direct or indirect fitness benefits (West et al., 2007). In terms of indirect benefits, punishment may lead the individual to cooperate with the relatives of the punisher (Lehmann & Keller, 2006). This seems to be true for other species as well, including plants and bacteria (reviewed by Trivers, 1985). Laboratory studies have shown that humans utilize punishment to promote cooperation (Raihani et al., 2012). Research suggest that young children tend to overestimate punishment for cooperation defection (Lergertporer et al., 2014). In one study, this caused the rate of cooperation amongst children ages 7-11 years old to double. As children get older, it is thought that they better understand the thoughts of others and therefore are more likely to better estimate punishment. It makes sense then, that young children acquire Stage 1 strategies prescribing obedience to authority because obeying authority is an adaptive strategy for relatively weak, small, and vulnerable people and children do not fully understand punishment yet. Punishment may have evolved in such a scenario as the parent-child or adult-child relationship in which the individual with more strength or power is most often expected to punish the less powerful who are then less likely to retaliate (Raihani et al., 2012).

In Stage 2, moral judgements prescribe helping others and keeping promises so that that help will be returned to you one day. As described in evolutionary theory, those who reciprocate resources may gain more through gains in trade than those who do not (Trivers, 1971). It is thought that reciprocity is rooted in human psychological systems

and has given rise to a sense of deserving, gratitude, indebtedness, righteous indignation, retribution, revenge, and vindictiveness, in addition to systems that instill a sense of fairness and justice (Trivers, 1971). Older children acquire Stage 2 strategies because these instrumental exchange strategies reap greater gains in relations with peers. Kohlberg believed that children do not have the cognitive sophistication necessary to understand reciprocity. While children may not fully understand reciprocity, from early on in development, children engage in prosocial behaviors such as helping and sharing. As early as three years old, children are influenced by reciprocity in sharing behaviors. Likely, children's prosocial behavior emerges spontaneously, but is later mediated by reciprocity (Warneken & Tomasello, 2013).

In Stage 3, there are two types of strategies. The first prescribes enhancing one's inclusive fitness by helping members of one's own group and the second prescribes conforming to moral norms. The adaptive benefits of the first strategy vary depending on the relationship between the helper and the recipient. Hamilton (1964) hypothesized that a decision-rule evolved that induces individuals to help others when the coefficient of their relatedness is greater than the cost to the helper of helping, divided by the benefits to the recipient. Therefore, these mechanisms direct individuals to favor helping relatives over nonrelatives, close relatives over distant ones, and more fecund relatives over less fecund relatives. Stage 3 moralism would likely apply to hunter-gatherer groups of about 15-50 individuals who interact daily and are interdependent and even interrelated. Outsiders are therefore less likely to be trusted (Mathes, 2019).

Unlike other species, humans regularly cooperate with both relatives and non-relatives (Henrich & Henrich, 2007). Individuals help friends, likely because they resemble kin and there is a possibility that investing in friends by bestowing low-cost favors is a winning strategy if it induces such friends to save your life, help you find a mate, or foster the fitness of your relatives. Alexander (1987) outlined three conditions that foster the system of indirect reciprocity which can help explain altruistic behaviors that harm the inclusive fitness of the helper to benefit that of the recipient. These conditions are: members of groups show a preference for givers as exchange partners, members of groups reward altruists and their relatives by bestowing honors on them, and the success of the groups to which altruistic individuals belong enhances their fitness and the fitness of their relatives. Cheaters then, must be punished by rejection and ostracism. Behaving altruistically may also enhance an individual's reputation, while acting selfishly may degrade it (Nowak and Sigmund, 1998).

Some moral norms, which can be defined as widely practiced types of behavior that members of a group consider right and obligatory, seem to be universal such as keeping promises, while others appear to be culture specific such as food prohibitions. It seems that humans are naturally inclined to conform to existing moral norms of their communities because conformity pays off. As suggested by Nesse (2001), it may be in one's long-term interest to honor his or her threats and promises, because the long-term benefits of upholding one's reputation for keeping his or her word may outweigh the short-term costs of honoring one's commitment.

One crucial factor in reputation management is indirect reciprocity, as individuals tend to invest in their reputation with the hope of indirectly benefiting from the generosity of others. A secondary factor in reputation management may be group membership where individuals are more concerned about their reputation with ingroup

members as opposed to outgroup members (Engelmann et al., 2013). Children as young as five years old seem to be sensitive to group membership and show an ingroup bias. They are also sensitive to situations in which they might benefit from creating an image as a fair person and will make costly donations to secure such an image (Engelmann et al., 2013). Children as young as five also seem to show concern for group reputation and use prosocial behaviors such as acting more generously to protect such a reputation (Engelmann et al., 2018).

During adolescence, children enter a new social world comprised of relationships with the opposite sex and long-term friendships which would activate mechanisms that utilize Stage 3 moral judgements in which social image, reputation, and fear of ostracism become salient. Individuals may also compete in order to develop reputations as altruists (Roberts, 1998). This theory, called competitive altruism, developed by Roberts (1998), suggests that individuals may utilize information about the altruism of others to decide with whom to form long-term partnerships. Therefore, it may be advantageous to accept costs in the short-term to secure profitable, altruistic partners in the long-term. The theory predicts that highly altruistic individuals should receive more.

Stage 4 moral judgments prescribe individuals to obey the law and conform to moral norms to maintain social institutions that promote common good and provide benefits that protect all members of society. As adolescents become adults, their social worlds are governed by moral orders upheld by Stage 4 moral judgements in which individuals become concerned not only with rule following, but with rule enforcement. Evolutionary theorists have suggested that hominid ancestors lived in small groups and therefore would not have experienced adaptive problems necessary for the selection of mechanisms designed to uphold Stage 4 systems of cooperation. Krebs (2005) therefore hypothesizes that Stage 4 moral judgements must be extensions of lower stage mechanisms such as avoiding punishments and cultivating a good reputation.

However, other research suggests that due to interdependence, social groups exist in which individual fitness is linked to the fitness of others (Roberts, 2005). One example is reproductive partnerships in which rearing offspring is dependent on contributions from both partners, so they therefore have a stake in each other as well as their children (Roberts, 2005). Friendship is another example of interdependence as friends may be engaged in each other's continued survival and welfare, but not so much in the propagation of their friends' genes (Roberts, 2005). Interdependence may have evolved because as groups became larger, those that better promoted altruism thrived relative to groups that did not because these altruistic groups were able to outcompete non-altruistic groups (Tomasello et al., 2012). In this way, transmission across generations may have involved the coevolution of genes and culture in which individuals adapted biologically to life in a culture that is characterized by group conformity, group punishment norms, and group competition. Additionally, interdependence makes it in an individual's direct interest to impress members of their own social group (Engelmann et al., 2013). Stage 4 morality would be applicable to nation states (Mathes, 2019).

This then begs the question of whether Stages 5 and 6 could have evolved. The moral judgements of these stages prescribe individuals to allocate benefits to humankind in a nondiscriminatory way. It is not believed that these strategies have evolved because they are vulnerable to issues such as cheating, nepotism, and discrimination against outgroups (Krebs, 2005). Furthermore, as previously discussed, individuals rarely act

selflessly for non-kin and typically cooperate with others in the hopes of gaining benefits later. Importantly, researchers have failed to find evidence of Stage 5 or 6 moral judgements about hypothetical dilemmas in non-Western cultures (Krebs, 2005).

Notably, individuals acquire an increasingly broad range of strategies that enable them to adapt to an increasingly broad range of social contexts (Krebs, 2005). In line with Kohlbergian thinking, an evolutionary perspective suggests that high-stage structures are better than low-stage structures because they prescribe strategies that uphold systems of cooperation equipped to produce greater benefits for all contributors. However, an evolutionary model would suggest that one's own propagation of genes is more important and therefore will influence an individual to a greater degree than what would be most helpful for society.

Other research suggests social evolution (i.e. social development) as a potential hypothesis to explain Stage 5 and 6 moral reasoning (Mathes, 2019). For example, evidence for the evolution of Stages 5 and 6 may be in international organizations designed for international cooperation (Mathes, 2019). Social evolution through the advancement of more complex social organizations would be considered a distal cause of moral development. These organizations were likely favored by natural selection because they facilitated the survival of the human species in some way. For example, Wright (2001) and Pinker (2011) have suggested that social evolution has expanded reciprocity to create more complex social organizations (reviewed in Mathes, 2019). Each progressive stage of social evolution, therefore, makes it possible for the cooperation of larger numbers of people.

Overall, from a Kohlbergian perspective, moral change will always be upward with no stage skipping under normal environmental conditions. Each individual will pass through each stage to reach the next stage in the sequence. It is also implied that a person's thinking will remain at a single dominant stage across varying content and situations, though the use of an adjacent stage is possible (Colby et al., 1983). In direct contrast to this, evolutionary theory would expect individuals to use the "stage" or mechanisms most useful in a given situation, dependent on environmental factors.

MORALITY AND HOMOSEXUALITY

Both Kohlbergian morality and that of evolutionary psychology have been used to think about and discuss several important moral conflicts. One such conflict is the morality of homosexuality. According to a Gallup poll, as recent as 2009, individuals polled in the U.S. were split almost in half (49% versus 47%) when asked if they believed gay and lesbian relations were morally acceptable (Gallup, 2019). The latest poll from 2019 yielded different results with 63% believing it is morally acceptable and 35% believing it to be morally wrong (Gallup, 2019). While this is about a 20% difference from 10 years ago, 35% is still a large number of individuals. The question as to why such a difference of opinion exists is a good one without a clear or simple answer.

Religion may play a role in terms of attitudes towards homosexuality. Some research suggests that certain kinds of religiosity are associated with increased prejudice towards others, specifically minority groups (Bloom, 2012). However, rather than religiosity itself, commitment to the social group as reflected by group participation and religious

rituals may motivate milder forms of denigration of outgroups. In the same way that individuals may mistakenly believe their actions to be based on rationalization rather than emotions or unconscious motivations, some people might believe that their disapproval towards homosexuality is rooted in the teachings of religious texts. These individuals may have some hostility or ill feeling towards homosexuals for other reasons and then justify this animus by referencing religious faith. Negative attitudes toward gay men specifically, may be derived from four widely held beliefs: gay men's engagement in anal intercourse is inherently dirty, gay men have been linked to the AIDS virus, gay men threaten traditional sexual morality, and gay men demonstrate a lack of purity on the basis of sacred scripture (Kiss et al., 2018). While these beliefs lack truth and empirical evidence, they are nonetheless widely believed by those who harbor negativity toward those who identify as gay.

From a Kohlbergian perspective, it can be theorized that individuals in the earlier stages of moral development would adhere to the beliefs and perspectives of their parents and others in authority when contemplating the morality of homosexuality. As one gets older, it would be thought that they would determine their own reasoning for beliefs about homosexuality. By the time one reaches Stage 6, their perspective should be heavily influenced by justice as outlined by Western philosophy. Further, utilizing Mathes' (2019) social evolution hypothesis explained above, Kohlberg's stages would likely support the idea that moral development suggests that tolerance of differences, whether they be of sexual orientation or otherwise, are necessary for the creation of a global community (Stage 6).

A study done by Thatcher and Chandler (2013) found that older students were significantly less likely to hold negative attitudes towards homosexuality than younger students. This would support a Kohlbergian theory of morality. However, a gender difference was found between tolerant girls and boys in that girls used universal principles out of consideration and caring (in line with Gilligan's thinking) and boys used universal principles but in an individualistic way (using "I" statements). This finding directly supports some of Gilligan's criticisms of Kohlberg, specifically that his theory holds a male bias and focuses heavily on individualistic ideas of growth. Other research has also shown gender differences and suggested that young men especially feel negatively towards homosexuality (Redzic, 2015). A study that looked at how individuals utilize Kohlbergian stages when faced with moral dilemmas found an inconsistency in individuals' application of moral arguments across dilemmas (Ellis, 2002). Specifically, participants tended to utilize lower level stages (Stage 4 and lower) when faced with lesbian and gay human rights issues as opposed to other types of moral dilemmas in which respondents were more likely to utilize Stages 5 and 6.

An additional piece of information from an evolutionary theory can continue to help shape our understanding of morality and homosexuality. The emotion of disgust likely evolved to discourage us from ingesting noxious and dangerous substances (Rozin et al, 1993). It appears disgust may also play another role, in exerting a causal influence on moral judgments (Inbar et al., 2009). Over the course of human evolution, it is possible that people have developed a "behavioral immune system" (Schaller, 2006) that functions to shield people from exposure to new pathogens or parasites. As a result, those belonging to out-groups, specifically those that engaged in unfamiliar practices in regard to food, cleanliness, and sex, may be perceived as posing a higher risk of carrying

new and dangerous infectious agents. Perceiving such individuals would activate the behavioral immune system and cause avoidance behavior as well as the emotion of disgust. Disgust caused by the doer of the unfamiliar act may lead those in the in-group to ostracize them to protect society (Nega et al., 2016). However, it is pertinent to note that just because certain groups are perceived as being pathogen risks, it does not mean that they actually are such a risk. In the case of homosexuality, there is no evidence to suggest that those who identify as homosexual are at an increased risk for carrying dangerous infectious agents compared to their heterosexual counterparts.

Those already sensitive to disgust would experience an even more acute hypervigilance in this area. In fact, evidence suggests that the strength of the behavioral immune system varies on an individual basis (Terrizzi et al., 2010). Those high in disgust sensitivity tend to adopt harsher attitudes on a variety of moral issues and tend to moralize violation of social convention (Chapman & Anderson, 2014). In terms of homosexuality, research has shown that negative attitudes towards those identifying as homosexual are often associated with feelings of disgust (Herek, 1993) and gay men have been criticized through the use of rhetoric of disgust (Nussbaum, 2003).

Inbar and colleagues (2009) found a relationship between high disgust sensitivity and attitudes on sexual purity and related issues such as homosexual marriage. Wang and colleagues (2019) found similar results in a Chinese population with disgust sensitivity being positively related to negative attitudes towards homosexuality. Other research has indicated that those with a high level of disgust sensitivity also show decreased liking of immigrants, foreign ethnic, and low-status groups, suggesting a relationship between disgust sensitivity and attitudes toward outgroups (Hodson & Costello, 2007). It has been hypothesized that interpersonal disgust in particular can function as an ethnic or outgroup marker, strengthening the prominence of ingroup boundaries and helping to maintain social hierarchies (Rozin et al., 1997).

One can argue that because homosexual individuals are part of a minority group, that it is expected that more negative reactions to this outgroup will occur in disgust sensitive individuals (Inbar et al., 2009). It is highly important to note that this issue lies within high disgust sensitive individuals and not with those who identify with a minority sexual orientation. High disgust sensitivity was likely adaptive at one point as it led to the avoidance of potentially deadly parasites as well as sick or dangerous individuals (Inbar et al., 2009). However, the argument of disgust sensitivity and homosexuality simply posits that this sensitivity may fuel prejudice against minority groups, due to minority groups being different than the status quo or in-group. While evolved psychological mechanisms serve important adaptive functions (in this case, pathogen avoidance), they can still produce harmful consequences (in this case, discrimination).

There is also evidence to suggest that these attitudes are more implicit, intuitive, and unconscious rather than explicit or conscious. As a result, individuals tend to correct for their moral intuitions using moral reasoning. So while the implicit disgust for homosexuality may exist due to the behavioral immune system, some individuals such as those who are politically liberal may be motivated to morally reason that there is nothing morally objectionable about homosexuality while those who are politically conservative or highly religious may instead be willing to endorse anti-homosexual attitudes. In fact, research suggests that there is an association between social conservatism and the behavioral immune system (Terrizzi et al., 2010). Prejudice against the gay and lesbian

community may also be part of a broader set of negative attitudes toward groups seen as threatening to traditional sex-related morality (Crawford et al., 2014).

However, it should also be noted that homosexual behavior is present in other mammal species and sometimes involves courtship, pair-bonding, and coparenting in addition to sexual acts (Savolainen & Hodgson, 2016). For example, Bonobos, humans' closest relative, engage in bisexuality (Gadpaille, 1980). However, exclusive homosexuality in other animals is rare and human sexual orientation seems to be majority heterosexual, leading many societies to struggle in understanding minority sexual orientation. This has led to societal responses that range from incorporation to ostracism (Ruse, 1988). Further, a trait shared between nonhuman primates and humans does not necessarily increase that trait's social acceptability.

HOW THEORY CAN BE APPLIED

One should consider that evolutionary theory is not prescriptive, but rather *descriptive*. Evolutionary theory only seeks to describe *why*. For example, biologist Nikolaas Tinbergen developed four categories that outline the explanations of animal behavior. The four categories are mechanism (causation), adaptive value (function), ontogeny, (development) and phylogeny (evolution). These can be further separated into two categories with mechanism and ontogeny being proximate causes and adaptive value and phylogeny being ultimate causes. Proximate causes can be understood as factors that are immediate, relevant, and potentially measurable in the present. They are considered how questions. Ultimate causes can be understood as explanations of the process and forces of evolution. These are known as why questions (Bateson & Laland, 2013).

While Kohlberg focused his research on proximate causes, or how questions, this paper sought to focus on more ultimate causes to shed light on why individuals may discriminate against minority groups, namely those who identify as homosexual. Just because it may be implicit for those high in disgust sensitivity to ostracize those who identify as homosexual, it does not mean that people should or that it is morally right to do so. Furthermore, there is no evidence that homosexuality is an actual pathogen risk, so not only is ostracization malicious, it is also unwarranted. Finally, in today's more global world, such prejudices are no longer adaptive if we wish to uphold systems of cooperation in which collaboration must exist between all types of people. As a society, we should seek to move to a postconventional morality (Stages 5 and 6) in order to survive as a species.

Additionally, we are not slaves to our evolved psychological mechanisms. In fact, humans have phenotypic plasticity which is the potential for an organism to produce a range of different phenotypes in multiple environments (DeWitt et al., 1998). The benefit of plasticity is the ability to better produce phenotype-environment matches across more environments. The question then is what could be done to decrease rates of discrimination against homosexuality, or the belief that such a sexual orientation is morally wrong.

Research suggests that intergroup contact can reduce prejudice through conditions such as equal status and authority support (Allport, 1954). Some theories of prejudice reduction focus on direct exposure to antibias information that changes the way

individuals think and feel about other groups. One group that has been of focus in research is children (DeWitt et al., 1998). One way of providing children with an indirect form of contact is through media. This can be especially helpful for children with little or no opportunity for direct contact (Aboud et al., 2012). However, evidence suggests that it is plausible that at times in our ancestral past, individuals who were susceptible to environmental influence could have experienced an adaptive advantage, leading to the selection of genes for later rather than earlier plasticity. Therefore, future interventions for prejudice reduction could focus on adults. As nothing is completely fixed in stone, there is much hope that behaviors and attitudes about sexual orientation minorities can be changed.

FUTURE DIRECTIONS

While much research has been conducted on morality or feelings towards homosexuality, little has been done concerning how one may affect the other. Evolutionary theory would suggest that group differences, especially those concerning sex practices, would lead to discrimination of the out-group by disgust-sensitive individuals, as a result of the behavioral immune system. Future research could focus on testing this hypothesis. Notably, Kohlberg's theory of moral development does not seem to hold up across different cultures, genders, or contexts the way that the evolutionary model of morality may. Therefore, future research could focus on this psychological evolutionary model of morality to make it more mainstream, as Kohlberg's theory is typically considered the most popular and well researched.

It can be thought that as people of minority sexual orientation are more accepted in society, the less likely they are to be targeted by disgust-sensitive individuals. Alternatively, those with disgust sensitivity could be exposed to minority groups as research shows that exposure to diversity decreases discrimination (Aboud et al., 2012). Future research could focus on what occurs when disgust-sensitive individuals are repeatedly exposed to groups they may discriminate against.

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