Title: Nature versus Nurture in the Origins of Prejudice

Research Question: ***Are Prejudices the Result of Natural Predisposition or Environmental Influences?***

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Nature versus Nurture in the Origins of Prejudice: the Result of Natural Predisposition or Environmental Influences?

Introduction:

One of the oldest debates in psychology revolves around the relative extent to which genetic inheritance and environmental influences affect the human psyche and human behaviours. At a broad level, the nativism school of thought holds that we are born with certain physical and mental characteristics which are hard-wired and that knowledge is innate. For instance, in the late 19th century, Sir Francis Galton (a cousin to Charles Darwin) suggested that intelligence was inherited and that "genius" could be passed down generationally through artificial selection (Galton, 1869). By contrast, empiricists postulated that the human mind is born without any knowledge and that certain skills and abilities are innate in a person. Philosopher, John Locke, an early proponent of this school, theorized that humans are born with a blank slate – which he termed, a "tabula rasa"– which is filled with knowledge through experience (Locke, 1689).

This debate has carried over to the inquiry into the origins of stereotyping, prejudice and discrimination. This paper will examine the following question: ***Are Prejudice the Result of Natural Predisposition or Environmental Influences?"*** Throughout this paper, the author will use the term prejudice to refer to an emotional reaction to another individual or group of individuals based on preconceived ideas about the individual or group (Fiske, 2010).

In this realm, the question is whether people are naturally inclined (through genetics or predisposed personality characteristics) toward biased or prejudicial attitudes; or whether they develop such attitudes from personal experiences in the environment as people grow up. That is, does prejudice emanate from the individual or is it learned through inter-group social practices? The issue is an important one since an examination of whether stereotypes and prejudice are naturally occurring or learned behaviours may help us understand, manage, and treat such negative behaviours – particularly in adolescents where harm can result in formative years. If human beings are innately predisposed to prejudicial attitudes and behaviours, the likelihood of success of prejudice-reduction strategies may be diminished should naturally occurring prejudices prove resistant to change. Yet if our prejudices are at least partially learned behaviours resulting from group interactions within the environment, the prospects for successful interventions – through education or intergroup conflict reduction strategies, for example – appear much more optimistic.

I.n this paper, the author examines several significant studies dealing with the origins of prejudice. The studies are categorized into two main groups: on the "nature" side are those that support either a biological or cognitive basis for prejudice; and on the "nurture" side are those that support a sociocultural basis for prejudice (while there is some overlap, the author has placed cognitive psychology studies on the "nature" side due to their focus on the way people acquire, process, and store information). The implications, as well as the weaknesses and limitations of the studies are discussed.

"Nature": Cognitive and Inherited Biological Factors as an Etiology of Prejudice:

The work of some psychologists supports the concept that knowledge, and our inclination toward certain beliefs and prejudices, can be inborn or the product of a natural propensity. Some biological studies are controversial in so far as they can be misinterpreted to support social and political beliefs supporting natural inequalities between groups in society; or to excuse anti-social behaviour as being due to uncontrollable genetic impulses. For instance, sociobiologist Rushton' s Genetic Similarity Theory (Rushton, 2005) attracted controversy by holding that prejudice toward dissimilar individuals is pre-programmed based upon our genetic inclination to prefer genetically similar individuals. Thus, a close examination into the results and limitations of the studies discussed herein is important.

An interesting study into the natural human inclination toward prejudice was that of Fiske in 2007. She investigated the automatic prejudicial responses of participants to people of all statures (including affluent executives, elderly people, disabled people, homeless people, and athletes) when showing participants pictures while they were being monitored in an MRI machine (a machine that creates a 3-D image of the brain through detecting activity in the brain by observing change in oxygen levels in blood (Crane & Hannibal, 2009)). Fiske (2007) found

that when the participants saw the image of a homeless man, their insula (the area of the brain associated with non-human objects like human waste and trash) made the brain react in a way that is linked with disgust and repulsion. Furthermore, the dorsomedial prefrontal cortex (the area of the brain that responsible for self-thought) was not activated when the participants viewed the homeless man. This suggested that when the participants saw homeless people, they did not associate them or classify them as actual people but as simple objects of an abhorrent nature. With the image of the homeless man, it was demonstrated that people's brains, and different areas of them, are lit up depending upon the stimuli thereby presented. Fiske's (2007) findings tend to support the idea that, biologically, our prejudices involve our brains dehumanizing (viewing devoid of moral consideration) others.

The study, however, was limited due to its use of the MRI technology which did not represent a natural environment for cognition, and therefore lacked ecological validity. As well, simply because the brain was shown to be active on the scan did not necessarily imply that the activity shown was caused by the images presented since other reasons could account for the brain becoming active. Despite these limitations, the study was useful in identifying indications of automatic responses to the poor. An issue for further investigation is whether participants' minds can be trained to be more empathic toward poor people.

Other work supports a natural inclination of individuals toward prejudices. Hart, et al. (2000) studied whether people respond differently to a face of their own race (in-group) than one of a different race (out-group) by looking at the mental processes that occur in our brains when we receive stimuli. Hart, et al. (2000) aimed to determine the effect that out-group versus in-group categories might have on an amygdala response to faces of neutral expression. In their

experiment, they used white and black-raced participants. They used an fMRI machine (a machine that measures brain activity by detecting changes in blood oxygenation and flow that occur in response to neural activity (Devlin, 2007)) in their study because it causes the areas of the brain that are activated when viewing stimuli to be seen on a screen monitor (Devlin, 2007). The researchers measured the participants' brain activity while showing them images of black and white individuals' faces. All subjects viewed the exact same stimuli (photos). However, each race saw the opposite race's faces as those for the out-group faces. Hart, et al. (2000) used eight adult males and females aged 20 to 35 years. Half were black and the other half were white. Within the two ethnic groups, there were an equal amount of participants of the same gender. They concluded that the speed with which the amygdala reacts to face stimuli depends upon subsequent interactions between the ethnicity of a subject and the perceived race in the face of the stimuli. Also, the researchers found that the higher amygdala activation in response to out-group faces during later presentations of stimuli resulted from amygdala response habituation (a decrease in response to stimuli after repeated viewings (Cherry, 2013)) caused by repeated presentations of in-group faces and sustained responses by the out-group. Hart et al. (2000) found that in-group faces were able to be better recognized compared to out-group faces that had already been presented to the individual. Conversely, faces belonging to an in-group were not classified or labelled as quickly as faces from an out-group.

The Hart et al. (2000) study was limited in that it is difficult to extrapolate the results and generalize them to all races or the general population because of the limited sample size and use of participants from only two ethnic groups. However, the study is useful in offering support for a difference in the ability of individuals to recognize in-group faces compared to out-group faces.

Consistent with the nature school of thought, it indicates the mental processes that occur in our brains when we receive stimuli show that we classify stimuli by racial category.

Since the formation of prejudice has an emotional component, it is also important to look at cognitive factors on the "nature" side of the debate which may influence how individuals act in response to stimuli. One aspect of cognitive psychology that is generally agreed upon is that a person's schema (their past memories and experiences) is used to process memory – a significant aspect of social cognition (Crane & Hannibal, 2009).

Researchers Darley and Gross (1983) aimed to determine if people's interpretations of others are distorted through schematic processing (the action of past memories and experiences affecting the encoding of new memories (Crane & Hannibal, 2009)) when they are required to judge the ability of others at a task. Using experimental methodology, they first showed the participants videos depicting a young girl in everyday life. In the first video, the girl appeared portrayed as indigent; and in the other, portrayed as being from a modern, middle-class family. The researchers anticipated that the participants' subconscious schematic processing would lead them to categorize the girl with her surroundings (i.e. stereotype her). However, when the participants were asked by the researchers to predict the academic future of the two girls depicted in the videos, all participants suggested that both girls would do well at school and receive a quality education.

In a follow-up experiment, Darley and Gross (1983) showed participants one of the two videos in the previous experiment – and then another video that depicted the girl taking an intelligence test but responding to questions in an unclear manner. The researchers did not suggest to the participants that the test was an intelligence test; in fact, the actual unfolding of the

scene was rather vague. After viewing the videos, the researchers asked participants to comment on both girls' academic abilities. This time, the girl from the modern, middle-class family was perceived to be better than the "needy" girl on all levels. After analyzing the participants' comments, it was apparent that participants formulated polarized opinions about the two girls based on their surroundings that were shown in the first video. The researchers reasoned that due to the ambiguity of the second video, the participants used details derived from the surroundings of the girl in the first video to draw inferences about the abilities of same girl in the second ambiguous video.

Darley and Gross's study (1983) has certain limitations. For instance, the study utilized college students and the results are not necessarily applicable to other age groups. Further, the results could be explained by factors other than prejudice; such as the perception that poor students are economically and educationally challenged. The study was not ecologically valid because it did not represent a real life situation; and may have been limited by demand characteristics (participants providing selective answers knowing they are part of a research study).

Nevertheless, the findings of Darley and Gross (1983) are useful in demonstrating the importance of schematic processing in perception. These findings demonstrate how cognition and its attributes (such as schematic processing) influence how people view others. The perception of the participants when viewing the ambiguous second video indicated that poor people were not as intelligent. How the participants viewed the poor girl doing the test was affected by their schema (their past notions) which influenced the categorization of the girls. Thus, Darley and Gross (1983) found that cognition, specifically schematic processing, plays a

role in prejudice and how people perceive others, solely based on stereotypes such as perceived socio-economic status.

Another useful cognitive psychological study offering insight into the psychological processes in which people come to justify their biased ways of relating to each other is Newheiser and Dovidio (2012). Newheiser and Dovidio (2012) aimed to examine two factors associated with stereotyping and prejudice: first, the role of individual differences in predicting prejudice and stereotyping; and second, the extent to which groups are perceived as having organization, unity, and coherence (entitativity, or the perception of a group as a pure entity). In their study, the researchers surveyed 161 non-Muslim students in early adulthood. Researchers gave the participants multiple questionnaires and measured the degree of their prejudice towards Muslim students, their contact with Muslims, their right-wing authoritarianism, and their "Personal Need for Structure" using 1-7 scales.

Newheiser and Dovidio (2012) found that an individual difference factor related to conventionalism (participants with right-wing authoritarian views), and an experiential factor (intergroup contact) predicted *prejudice*. More specifically, they found that entitativity moderates the relationship between stereotyping and personal need for structure. The median age (21.73) of participants in the Newheiser and Dovidio (2012) study calls for some caution in extrapolating the results to others. However, the study does offer a more nuanced approach to inter-group conflict by differentiating between stereotyping and prejudice. Interestingly, the strongest correlations were found between right-wing authoritarianism and prejudice (.29), and entitativity and stereotyping (.32). Intergroup contact was found to have a low-moderate *negative* correlation (-.21) with prejudice.

Despite their limitations, these studies indicate some support for the idea that prejudice has a natural source in the individual; in other words, humans have a certain natural inclination toward prejudgments. In some cases, this may have developed as a survival instinct which offered evolutionary advantages. As well, certain cognitive theories suggest that humans are naturally inclined toward stereotypes.

"Nurture": Sociocultural Factors as an Etiology of Prejudice:

A second category of studies supports the "nurture" school of thought that prejudice is learned rather than being inherited or instinctive. In a classic study into the nature of prejudice, Allport (1954) developed the Contact Hypothesis or Intergroup Contact Theory which holds that prejudice and stereotypes evolve from normal human thinking which sorts information into categories in order to make sense of the world. Once formed, categories become the basis for normal prejudgment. He stated that interpersonal contact which instils communication and understanding can be highly effective in reducing prejudice between majority and minority group members. Such prejudices can be intensified by frustration among people who are themselves disadvantaged and therefore looking for scapegoats (Dollard, 1939). Hence, exposure to different stereotypes in the environment (such as through the media or authoritarian personalities) may explain the formation of group prejudice at the societal level.

The Robber's Cave experiment offered insight into how intergroup hostility arises due to conflict in group goals and competition over limited resources (Sherif, et al., 1961). It sought to offer an explanation for discrimination and prejudice by an in-group toward an out-group when intergroup hostility develops. Specifically, Sherif et al. (1961) aimed to determine if the division

of people into groups would generate and foster conflict between two groups of 11 and 12 year-old adolescent boys. Using experimental methodology, Sherif et al. (1961) chose a group of 22 boys who had never met before but had similar backgrounds: intelligent, socially well-adjusted, Protestant, European American, and healthy. The researchers posed as the staff of a summer camp the boys were sent to. Sherif et al. (1961) divided the experiment into three phases: (1) in-group formation (the researchers divided the boys into two groups based on similar attributes); (2) the friction stage (the two groups of boys began to compete with each other in camp activities with the winners were awarded prizes that caused negative attitudes and behaviours in the in-group toward the out-group); (3) the integration stage (the two groups were forced to work cooperatively resulting in diminished intergroup relations).

Sherif et al. (1961) concluded that, based on the sociocultural equality of both groups, intergroup conflict did not need to be aroused by individual differences. As the boys were competing in activities in stage two, Sherif et al. (1961) observed negative behaviours such as name-calling towards the members of the out-group when supplies could only be attained by one group. In stage three, Sherif et al. (1961) found that simple intergroup interaction was insufficient alone to reduce conflict and negative feelings toward the out-group. In this regard, superordinate goals were necessary to promote cooperation and unity between the two groups.

Sherif's (1961) study was insightful but subject to criticism. For instance, he did not follow now-accepted ethical guidelines such as avoiding deception and securing the consent of participants (though he did interview the parents of the boys prior to the experiment (Sherif, 1961)). Due to the deception, lack of informed consent, and the promotion of rivalry amongst pre-pubescent adolescent males, Sherif et al. (1961) risked physical and psychological harm being done to the participants. His sample size (22) was also relatively small, making it difficult

to generalize the findings. Despite these limitations, the study was ground-breaking in suggesting that competition over limited resources, power imbalance, and a lack of superordinate goals can lead to inter-group conflict in boys.

Another study offering support for the influence of environmental factors on the development of prejudice is that of Elliott in 1968. Elliott (1968) developed a blue/brown eyes experiment for her class of third grade Caucasian students in Iowa. She aimed to examine the role of perception in a person's willingness to discriminate against others based on physical characteristics. She divided her class of eight year olds on the basis of eye colour (brown eyes and blue eyes) rather than skin colour. She told the brown-eyed students that they were more superior and talented in comparison to the blue-eyed group, and gave the brown-eyed group benefits such as extra playground access, extra helpings at lunch, etc. Shortly thereafter, she observed arrogant and bossy behaviour by the brown-eyed group and subservient and introverted behaviour in the blue-eyed group. The in-class performance on math and reading tests of the brown-eyed group improved compared to their previous performance; whereas, the performance of blue-eyed children in similar tests diminished. The following day, Elliot (1968) reversed the experiment by making the blue-eyed students superior to the brown-eyed students. Interestingly, the blue-eyed students' performance increased relative to their scores the previous day. Also, brown-eyed children became less arrogant when given authority, seemingly now possessing a sense of empathy toward their out-group. Critics of Elliott (1968) pointed chiefly to its ethical flaws (lack of informed consent and potential to cause long-term psychological harm in participants). Despite these shortcomings, the study does indicate some support for the ease with which children may be prone to discriminatory behaviour based upon minor physical differences between an in-group and out-group.

Another early cognitive study on the sociocultural side of the debate indicated that learned stereotypes can be a socially inhibiting factor for stereotyped people. Page (1977) investigated the effect of having a mental illness affects people's ability to rent a room to live in. In this experiment, the independent variable was represented by the existence (or not) of a mental illness in the possible renter; and the dependent variable by whether the room was available for rent. Three different researches called 180 people. The first person who phoned the landlord asked if the room was for rent as if they were a normal person with no mental illness. Then the second time, a different person called the same 180 people and pretended to have a mental illness. Finally, the third time, another person called the same 180 people the second person had previously called only a short time later, this time pretending to be normal. Page (1977) found that the room was more than always available for rent in the case of the normal person; however, in the case of the mentally ill person, 75% of the landlords said that the room was not available to rent – and when the third (normal) person called right back, the room was generally for rent once again. Although the study was limited by factors such as its lack of generalizability beyond Toronto, Canada (where it was conducted), the study was useful in demonstrating how people with a mental illness can be negatively stereotyped. It demonstrated that applying certain labels to people – or stereotyping them – deprived mentally ill people of opportunity. This could pose a difficult emotional, social and economic challenge to mentally ill individuals.

Another study investigating the social influences on prejudice development was Dhont & Van Hiel (2012) which examined the intergenerational transmission of racism and its similarity amongst family members. They aimed specifically to find the relationship between parental authoritarianism and adolescents' racial prejudice, and whether positive intergroup contact could mitigate prejudice. They took a sample of 99 dyads of Belgian students and instructed them to

individually complete a questionnaire that measured the authoritarianism of the adolescents and parents. Next, the degree of participants' prejudice in relation to immigrants was measured using a 9-item modern racism scale (containing numbers 1 to 7, 1 being strongly disagree and 7 strongly agree). The participants were asked to scale the nine items such as "discrimination against immigrants is no longer a problem in Belgium." The level of positive intergroup contact that adolescents were receiving was evaluated using four questions regarding their contact with immigrants, including their experiences with such contact and the type of contact they felt they had with the out-group. Dhont and Van Hiel (2012) found that the authoritarianism and the racial prejudice of parents and their adolescents were strongly correlated in adolescents with low levels of intergroup contact and much lower among adolescents with high levels of intergroup contact. The study was limited by its use of cross-sectional data (which did not allow the researchers to draw causal inferences about the direction of relationships) and an unrepresentative sample group (overrepresentation in female participants, highly educated parents, and adolescents).

Notwithstanding these limitations, the researchers determined that intergroup contact can reduce the relationship between parental authoritarianism and adolescent racial prejudice. Also, positive experiences with members of an out-group lessened the influence of parents' authoritarianism on adolescents' racial attitudes. Dhont and Van Hiel (2012) thus suggested that promoting intergroup contact will effectively reduce adolescent prejudice by reducing negative out-group attitudes. In the absence of intergroup contact, adolescent and adult authoritarianism and prejudice have intergenerational similarity.

While these sociocultural studies do contain inherent limitations, they indicate that prejudicial attitudes and stereotypes can be formed by separating groups based on physical characteristics (Elliott, 1968) or arbitrary characteristics (Sherif et al., 1961). This social

separation appears to reinforce the in-group's collective traits and may result in disadvantages for the stereotyped group (Page, 1977), particularly in the presence of adversity (Elliott, 1968) or in the absence of inter-group contact (Dhont & Van Hiel, 2012) and superordinate goals (Sherif et al., 1961). These studies therefore offer compelling support for the influence of environmental factors on prejudice formation.

Conclusion

In conclusion, it appears that both genetic and environmental conditions have a role in the formation of human prejudices. Biological and cognitive studies tend to favour the "nature" side of the debate by indicating that prejudice attitudes may, in part, stem from our biological make-up or the way we are naturally programmed to acquire and store information. Still, studies in the sociocultural branch of psychology tend to support the "nurture" side of the debate by suggesting that environmental influences such as intergroup contact are important in the formation (and reduction) of prejudice. The studies reviewed in this paper thus indicate the existence of multiple, complex causes of prejudice.

Regardless of our natural inclination toward prejudicial attitudes, however, it appears prejudices can be worsened in degree by sociocultural influences. Moreover, environmental influences such as education, intergroup social contact, and superordinate goals may moderate the human inclination toward prejudice, stereotyping, and discrimination. While an examination of such prejudice-reduction strategies is beyond the scope of this paper, the author suggests the inquiry into the origins of human prejudices is a worthwhile starting point.

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