

PREFERENCE FOR CONTROL IN RURAL MEXICAN AND URBAN ANGLO AMERICAN CHILDREN

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Urban United States and rural Mexican boys and girls were individually presented with a novel behavioral measure, the Preference for Control Wheel, to assess both their preference for control and their perception of locus of control. Due to an illusion, almost all children had an internal perception of locus of control. Nevertheless, urban United States children significantly more than rural Mexican children attempted to control the wheel of chance. Boys of both cultures attempted to control the wheel more than girls, but that difference did not reach significance. Results were related to Rotter's social learning theory, Festinger's dissonance theory, and cultural comparisons of child-rearing practices.

Niños de residencia urbana en los Estados Unidos y niños Mexicanos de residencia rural participaron en actividades basadas en una nueva medida comportamental—La Rueda de Preferencia del Control— para medir sus preferencias de control y su percepción del foco del control. Debido a una ilusión casi todos los niños tenían una percepción interna del foco de control. Sin embargo, niños de residencia urbana en los Estados Unidos trataron de controlar la rueda del azar más que los niños Mexicanos de residencia rural. Los niños del sexo masculino de ambas culturas trataron de controlar la rueda más que las niñas pero la diferencia no fue significativa. Los resultados se relacionan con la Teoría del Aprendizaje Social de Rotter, la Teoría de la Disonancia de Festinger así como con las comparaciones culturales de las prácticas de crianza de los niños.

In potential interpersonal conflict situations urban United States children compete, in contrast to rural Mexicans who avoid competition (Kagan & Madsen, 1971, 1972; Madsen, 1971, Madsen & Shapira, 1970). In these interpersonal interaction situations children of each population persist in their preferred mode of adaption even when that mode is ineffective in obtaining the toys for which they are striving. The present experiment was conducted to determine if populations known to differ in competitiveness would differ also in preference for controlling their environment in a situation unrelated to social interaction. The present experiment thus tests the plausibility of the hypothesis that observed cultural differences in competition are but one manifestation of population differences in preference for control of one's environment in general.

There are a number of reasons for believing that urban Anglo-American children have a greater preference for control than do rural Mexican children: Kluckhohn

(1954, 1961) claims that Mexicans see man as subjugated to nature in contrast to Anglo Americans who see man as dominant over nature. Lewis (1959, 1969) describes passivity as one of the defining characteristics of rural Mexicans and the culture of poverty in general. Diaz-Guerrero (1965, 1967, 1971, 1972) has formulated the active passive transcultural dichotomy to describe the differences between Mexicans and Americans. Fromm & Maccoby (1970) conclude that Mexican villagers are passive and submissive. Kagan (1974) found rural Mexican children more compliant than urban Anglo American children in traditional field dependence and conformity situations. Kagan & Carlson (1975) found rural Mexican children less assertive than urban and semi-rural United States children.

Urban Anglo American children may have a greater preference for control than rural Mexican children also because they may have a more internal perception of locus of control. A sense of external locus of control is associated with both lower economic class (Battle & Rotter, 1963; Crandall, Katovsky, & Crandall, 1965; Stephens, 1971; Shaw & Uhl, 1969) and with Mexican and Spanish American cultural background (Graves, 1961; Scott & Phelan, 1969; Stephens, Delays, Lopez-Roig, & Vilez, 1971). Further, mothers in rural Mexico reinforce their children in ways likely to produce a sense of external control in their children; urban United States mothers reinforce their children in ways likely to produce a sense of internal control (Kagan, 1972). When allowed to reinforce their children following successes and failures, rural Mexican mothers give unconditionally, reinforcing their children almost equally for successes and failures as well as for easy and difficult successes. In contrast urban United States mothers reward their children conditionally, giving for successes and not giving for failures as well as giving less for easy successes than for difficult successes (Madsen & Kagan, 1973; Kagan and Ender, 1975). Because rural Mexican mothers do not discriminate success from failure or easy from difficult success, their children are likely to learn that what they get is independent of what they do, that is, that reinforcements are externally controlled. Because urban United States mothers reinforce their children as a function of the child's behavior, the child is likely to learn that what he gets is a function of his own behavior, that is, that he has an internal control over his reinforcements.

Differences in perception of locus of control might explain the differences in competitiveness and assertiveness observed in comparisons of urban Anglo American and rural Mexican children. Considerable evidence indicates that a perception of internal control is associated with preference for controlling objects and others in the environment. Those with an internal locus of control more than externals are politically active (Gore & Rotter, 1963, Seeman, 1964, Strickland, 1965); more often attempt to control and better their life situation (Seeman & Evans, 1962; Seeman, 1963); more often change the attitudes of others (Phares, 1965); and achieve more in school (Coleman, 1966; Franklin, 1963). In contrast, persons with an external locus of control more often yield to external influences in a variety of situations (Gore, 1972; Julian & Katz, 1968; Strickland, 1962).

On the basis of these findings it was predicted that rural Mexican children would have a greater perception of and preference for external control compared to urban Anglo American children.

To test the predication about preference for control a novel behavioral measure was created. The measure relies on a minimum of words and so is well-suited for cross-cultural comparisons of children. To test the prediction about perception of control, children were interviewed concerning their belief in their ability to control the experimental apparatus.

Method

Subjects

Subjects of the experiment were thirty-two children, ages 7-9. Half of the children were from San Vicente, a small town (population approximately 800) in Baja California, Mexico. The other half of the children were from a suburb of Los Angeles, California. Children of both populations were equally divided by sex. The United States children were enrolled in day-care center federally supported to aid low income families with working mothers. The United States children, however, were from families economically richer than those in Mexico, where most of the families of children tested live just slightly above subsistence level. Previous research has demonstrated San Vicente children to be less competitive, less rivalrous, and more avoidant of conflict than urban United States children (Kagan & Madsen, 1971; 1972a; 1972b; Madsen, 1971; Madsen & Shapira, 1970). San Vicente has a number of small retail business establishment, but the economy is essentially agricultural.

Apparatus and Procedure

Each subject sat facing a wheel of chance with twelve equally probable outcomes numbered one through twelve. From underneath the wheel extended a nylon string with a loop on the end which could be grasped and pulled by the subject. The string was attached to a tally counter behind the wheel. See Figure 1.

Each time the string was pulled with two pounds of force, the tally counter registered. The harder the string was pulled, the further it could be extended. If the string was pulled with six pounds of force, a knot in the string reached an eyelet through which it could not pass, so the string could not be extended further. The six pounds of force needed to extend the string to its limit was within the easy range of all subjects.

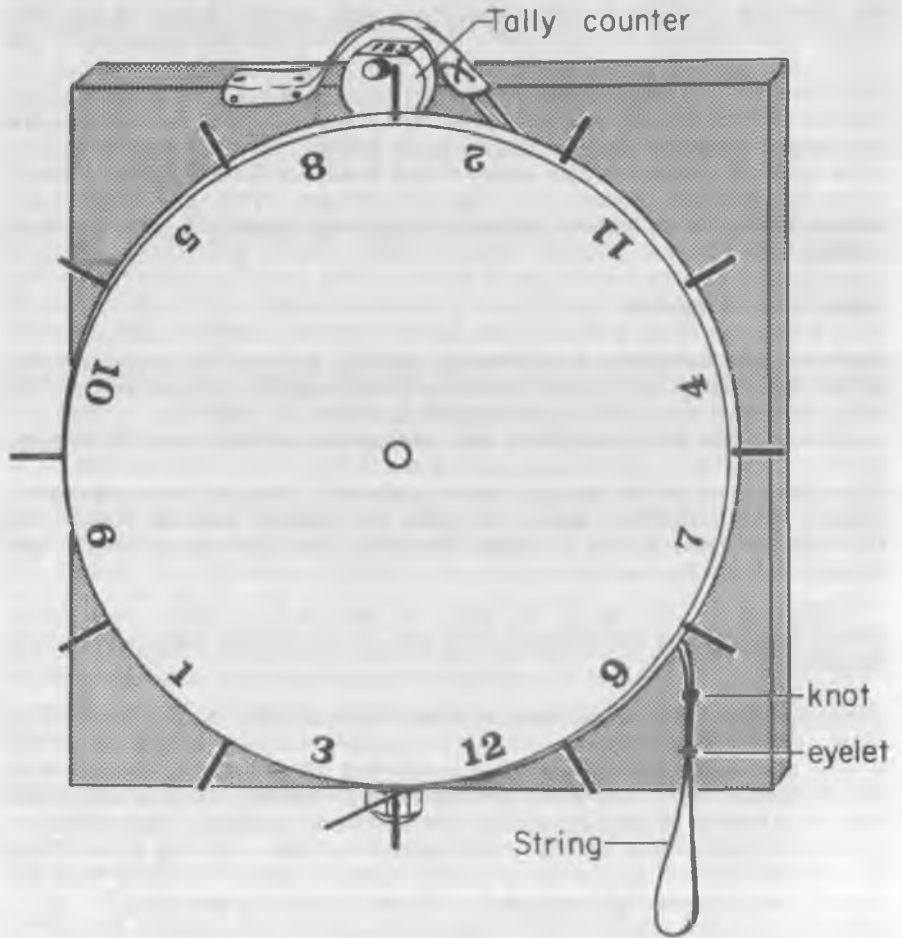
When children were seated, the wheel was spun and the children were shown how it could fall on any number from one to twelve. The experimenter then instructed the children.

The wheel will be spun ten times. After each spin, the number showing on the wheel will be written down (paper numbered one through ten was indicated). After all ten spins, we will add up the numbers that have been written down. The more the numbers sum, the more toys you will receive (a variety of inexpensive toys were indicated). Remember, higher numbers will mean more toys for you to keep. Now, take this string in your hand (all children were made to hold the nylon loop). If you wish, when the wheel is spinning, you can try to control it by pulling this string.

Pulling the 'control string' in no way influenced the wheel of chance: the total time of the spins was predetermined at an average of twenty seconds, and the wheel stopped on the numbers randomly. After each trial the tally counter indicated the number of times the string was pulled with at least two pounds force. The experimenter also noted the number of trials in which the string was pulled to its maximum (i.e., the knot reached the eyelet).

After the experiment, children were interviewed concerning their beliefs about the effects of pulling the control string. Each child was asked whether he could control the wheel by pulling the string and what happened when the string was pulled.

Figure Caption.
Figure 1. Preference for Control Wheel.



Results

Results are described under the topics of frequency of pulls, strength of pulls, and perception of control. Unless otherwise stated, all tests of significance were performed by the Mann-Whitney U test. In both cultures boys pulled the control string harder and more often than girls, but that difference did not reach significance so the sex variable is collapsed in all analyses.

Frequency of Pulls. Urban Anglo American children pulled the string significantly more often (average 10.4 times per trial) than the rural Mexican children (3.8 times per trial); $p < .01$. In the United States no child went the entire ten trials without pulling the control string, in Mexico, five children never pulled the string. In the United States all children averaged more than one pull every two trials, in Mexico only seven of the sixteen subjects averaged that many, $p < .01$, Chi Square. All but two Anglo American children averaged more than one pull per trial, only five Mexican children averaged more than one pull per trial, $p < .02$, Chi Square.

Strength of Pulls. Anglo American children pulled the string to its six pound limit on significantly greater percentage of trials (80.0%) than did the Mexican children (15.6%), $p < .001$. In the United States all children pulled the string to its limit on more than one trial; in Mexico 12 of 16 children never pulled the string to its limit; $p < .001$, Chi Square. All but four Anglo American children pulled the string to its limit on more than half of the trials, only one Mexican child pulled the string to its limit on more than half the trials; $p < .001$, Chi Square.

Perception of Control. Post experiment interviews revealed that all of the thirty-two subjects, with the exception of three rural Mexicans and two urban Anglo Americans, believed they could control the wheel by pulling the string. This illusion existed even in some of the subjects who never pulled the string. Three of the five children who never pulled the string believed that the wheel could be controlled by pulling the string. One Mexican boy, who stated he believed the wheel could be controlled, gave his reason for never pulling the string: "I wanted to see where it (the wheel) would fall."

Subjects who pulled the string provided various detailed rationalizations of how they controlled the wheel. Some children appeared to indicate a magical connection between pulling and receiving higher numbers, for example, "I pulled it harder and that made me have higher numbers." More common was the belief that pulling the string sped up the wheel: "When you pull this (string), it makes it go a little faster and then it can go to a high number." Most common was the illusion that pulling the string acted to slow the wheel: "It sort of slowed it down when I pulled it."

Based on their illusion of control, some children devised rather complex strategies to get higher numbers. One Anglo American girl explained her approach, "I waited 'til it was kind of slowing, because then you could see the numbers better. I let it wait a few seconds and when it slowed down then I pulled it. Then it slowed down and I pulled it again and I stopped it. I pulled so that when it stopped I would have more points."

Discussion

The almost non-overlapping cultural differences in attempts to control a wheel of chance observed in the present experiment indicate that preference for control may be a very central difference between urban United States children and rural Mexican children. That every Anglo American child and only one fourth of the Mexican children pulled the control string to its limit indicates an almost qualitative difference in the tendencies of the children of each culture to attempt to control

their environment. This difference manifested itself in both the frequency and intensity of the children's pulls.

The greater preference for control among the urban United States children, however, cannot be attributed to a greater internal perception of locus of control. The unexpected finding in the present experiment was that almost all children believed they could control the wheel; the two groups differed in preference for control, not perception of control. Apparently the instructional set and the presence of the control string provided sufficient cues so that almost all children believed they could control the wheel. Strikingly, both of the urban United States children who did not believe they could control the wheel nevertheless pulled the string to its limit on every trial. Further, a number of Mexican children who expressed belief that the string could control the wheel, never pulled the control string. Thus in the present experiment there was at least a partial independence of perception of control and preference for control.

The independence of perception of control and preference for control observed in the present experiment may have implications for causal models concerning the relationship of beliefs to behavior. Rotter (1966) indicates that attempts to control the environment result in part from one's belief in one's ability to control the environment. Rotter's formulation does not fit the present findings: preference for control was present even in those urban Anglo American children who did not believe in their ability to control, and was absent even in those rural Mexican children who did believe in their ability. In contrast to Rotter's social learning theory which postulates behavior as a consequence of cognition, Festinger's (1957) dissonance theory postulates cognitions as a consequence to behavior, and better fits the present findings. Dissonance theory may partially explain why urban Anglo American children had such intense illusions of control and developed such complex strategies: it would be dissonant for children who vigorously pulled the control string to believe that pulling made no difference, they could reduce dissonance by developing and believing in complex strategies. It may be that cultures differentially induce persons to attempt to control their environments, which in turn effects their perception of locus of control. Dissonance theory may thus offer some insight into the etiology of perception of locus of control. Dissonance theory alone, however, cannot explain the initial intensity of activity of almost all Anglo American children, and the greater contentment of the rural Mexican children in "seeing where the wheel falls."

Perhaps one fruitful avenue to follow in the search for the origins of cultural differences in preference for control would be the study of the availability of control and its consequent reinforcements for the urban United States and rural Mexican child. Parent restrictiveness, obedience training, and punishment are more common in rural Mexico than urban United States. Among six cultures, obedience training is highest among Mexican mothers and lowest among United States mothers (Minturn & Lambert, 1964). Anthropological and psychological studies converge on the description of rural Mexican parents as extremely restrictive and punitive (Fromm & Maccoby, 1970; Lewis, 1960, Maccoby, 1964). It may be that parental punitiveness and restrictiveness are negatively correlated with a child's strivings for and preference for control. An alternative explanation of the observed population differences in the present experiment might implicate the urban Anglo American mother's exacting direction and reinforcement of high achievement (Madsen & Kagan, 1973; Kagan & Ender, 1975). A high need for achievement could explain the general tendency of urban United States children to control others and objects in their environment.

Although the population differences in preference for control observed in the present experiment are quite reliable, only future research can determine the generality of the present findings. It is probable that the observed differences are more a function of differences in levels of urbanization and economic class than in Mexican and American cultural values. A recent study indicates urbanization and class differences more predictive of differences in assertiveness than cultural differences alone (Kagan & Carlson, 1975). The extent to which economic class, urbanization, and cultural background independently determine portions of the variance in preference for control, and the etiology and effects of these differences can only be established by further research.

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