Eysenck’s Theory of Conscience: Antisocial Behavior and Moral Reasoning

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Hans Eysenck’s hypothesis about the acquisition of behavioral inhibitions and good behavior was evaluated. The hypothesis suggests that what is often described as morality or conscience is acquired through learning experiences to which individuals respond differently according to their temperament-based personality traits. Eysenck’s theory of personality has three temperament-based traits: Psychoticism (P), Extraversion (E), and Neuroticism (N). He suggests that individuals who are low on both the E and N traits are more likely to acquire behavioral inhibitions than individuals who are high on both traits. Further, the E trait is known to affect susceptibility to reinforcement and punishment and therefore learning. Thus, it was hypothesized that individuals low on E and N should have higher scores on an assessment of moral reasoning. The study employed 60 participants between 11 and 15 years of age. The participants were placed in either a high group \((n = 30)\) or a low group \((n = 30)\) based on their E and N trait scores. Participants in the two groups were matched for age and gender. Scores on the P trait were controlled to allow a better test of the E and N trait combination. Differences between the groups on self-reported externalizing conduct problems were examined. Participants’ who scored low on the E and N traits scored significantly lower \((p < .001)\) on self-reported behavior problems than those scoring high on the two traits. In a regression analysis, the interaction of EN accounted for the most variance. Likewise there was a significantly higher moral reasoning score \((p < .001)\) for the participants from the low E and N group. In a regression analysis, the E alone accounted for the most variance.

The authors discuss the results, limitations of the study, and suggestions for future research.
Eysenck’s Theory of Conscience: Antisocial Behavior and Moral Reasoning

The difficulties posed for public school programs by children and adolescents with problem behaviors have been widely discussed (Kamps & Tankersley, 1996; Maag & Howell, 1991; Nelson, Center, Rutherford, & Walker, 1991; Nelson, Rutherford, Center, & Walker, 1991; Skiba, Peterson, & Williams, 1997; Sprague, & Walker, 2000; Vance, Fernandez, & Biber, 1998). Many factors influence the development of problem behavior (McMahon & Wells, 1998; Sprague & Walker, 2000). Explanations for problem behavior tend to focus largely upon social and cognitive factors (Bandura, 1973; Patterson, DeBaryshe, & Ramsey, 1989). However, there is growing interest in biological factors including temperament. Temperament, a biologically based trait, can be considered a risk factor that predisposes a child to development of problem behavior (Chess & Thomas, 1987; Eysenck & Gudjonsson, 1989). Both Lawrence Kohlberg and Hans Eysenck have contributed to the psychology of morality and moral development.

Kohlberg (1964) defined morality as a set of cultural rules for social action that have been internalized by an individual. Kohlberg’s theory assumes that the different reasons a person gives for moral judgments are reflective of differences in moral reasoning. Thus, the different types of reasons people employ in making moral judgments indicate differences in cognitive development and are the basis for Kohlberg’s developmental theory. Generally, the reasoning associated with each level of development reflects differences in social understanding.

Kohlberg (1984) classified these differences into six distinct patterns or developmental stages of moral judgment, however, only the first five are typically observed. He stated that these stages are age-related, though not age-dependent, and can
be divided into three distinct levels: the preconventional, the conventional, and the post-conventional, each of which can be divided into two stages. In Kohlberg’s model, each stage is dependent on the previous stage and developmental progression represents not simply addition but a reorganization of prior developmental experience. The stage sequence begins with deference to power and avoidance of punishment and ends, at stage 5, with adherence to general principles that might be thought of as a social contract orientation. A review (Rothman, 1980) of studies that examined the possible relationship between moral reasoning and moral conduct concluded that a relationship was supported, although it represents a complex relationship affected by a number of factors. In general, less mature moral reasoning than would be expected developmentally was associated with antisocial behavior.

Much like Kohlberg, Eysenck (1976), a British psychologist and personality theorist, defined morality as the internalization of social values and norms. Eysenck stated that the study of morality must begin by asking how to account for good behavior rather than how to account for bad behavior. Eysenck offered a hypothesis about good behavior and the development of behavioral inhibitions based on his theory of personality.

Eysenck (1976) described conscience as a conditioned reflex acquired through respondent learning. Respondent learning takes place through the association of a neutral stimulus with a potent stimulus, which has the power to elicit a reflex response. This leads to a neutral stimulus acquiring eliciting power similar to the stimulus with which it was paired. One such class of reflex responses is emotion. Eysenck suggested that emotional responses are the basis for conscience. Thus, conscience can be thought of as
negative conditioned emotional responses elicited by engaging in or by anticipating engaging in a prohibited behavior. In such a case, the prohibited behavior or its cognitive representation functions as a conditioned negative stimulus. For example, if a parent punishes a young child when it goes out into the street, the street (neutral stimulus) comes to be associated with the punishment. The punishment probably elicits a complex response that includes pain, fear and escape behavior. Once the conditioned inhibition has been established, the child will feel mounting anxiety as it approaches the street and will turn away or avoid the street. Virtually, any child can acquire such conditioned inhibitions; however, Eysenck suggests that the ease of acquiring such inhibitions varies with temperament.

Eysenck (1976) thought that good conduct could be the result of socialization that establishes a system of conditioned inhibitions on behavior. Eysenck’s hypothesis was that individual differences in susceptibility to conditioning result from the interaction of two temperament traits: Extraversion (E), and Neuroticism (N). Persons high on E are less responsive than persons low on E to the conditioning of operant and respondent responses. A person high on the E trait has a low basal arousal level in the neocortex and does not acquire anxiety-based constraints on behavior as easily as a person with a high level of arousal in the neocortex (low E).

Center and Kemp (2002) conducted a meta-analysis of research examining Eysenck’s personality theory in relation to antisocial behavior in children and adolescents. All of the studies selected for inclusion in this analysis employed a contrast group. This meta-analysis found weak support for E with an average effect size of .20 when antisocial children were compared to controls. There was moderate support for N,
with an average effect size of .43. Unfortunately, none of individual studies in the meta-analysis examined the combination of the E and N traits. Most hypotheses derived from Eysenck’s theory are stated in terms of effects from combinations of traits. To properly test such hypotheses participants should be selected who match specific trait profiles and then assessed for predicted outcomes rather than being selected for specific outcomes and then tested to determine if any of the predicted personality traits are present. Thus, personality is more properly used as the independent variable and behavior used as the dependent variable (Center, Jackson, & Kemp, in press).

Jackson and Center (2002) evaluated Eysenck’s (1976) morality hypothesis. The study divided participants into high, low, and mixed categories based on their E and N trait scores. Differences between the groups on self-reported externalizing conduct problems were tested. A statistically significant difference ($p < .05$) was found between the high and low groups. The low group reported significantly less problem behavior, which supports Eysenck’s hypothesis. However, the study was limited because of an unequal number of participants in the high ($n = 37$) and low ($n = 11$) groups and the size of the low group. There was also the possibility of a selection factor in the sample since all the participants were from a disciplinary setting. Finally, Center and Kemp (2002) found that the most potent Eysenckian trait was P, which was not controlled in the study and may have contributed to the finding.

The results of research examining moral reasoning and problem behavior are mixed. Five studies (Arbuthnot & Gordon, 1986; Bear, 1989; Bear & Richards, 1981; Campagna & Harter, 1975; Fodor, 1972) support the Kohlbergian hypothesis that less mature levels of moral reasoning (Stage 1 and 2) are associated with higher levels of
problem behavior. Five other studies (Bear & Rys, 1994; Hudgins & Prentice, 1973; McCollan, Rest, & Pruitt, 1983; Richards, Bear, Stewart, and Norman, 1992; Schonert-Reichl, 1999) report results that are inconsistent with the Kohlbergian hypothesis. Thus, the research is inconclusive.

There are a limited number of studies that examine the Eysenckian traits and moral reasoning as conceptualized by Kohlberg as both relate to problem behavior (Aleixo & Norris, 2000; Furnham & Barratt, 1988). Furnham and Barratt (1988) examined the relationship between moral reasoning and personality in three groups of adolescents: delinquents, non-delinquent problem children, and a contrast group. The participants completed the Defining Issues Test (DIT) (Rest, 1990), which is based on Kohlberg’s theory of moral development and the Junior Eysenck Personality Questionnaire (JEPQ) (H. Eysenck & S. Eysenck, 1975). The results indicated no significant difference between the three groups in moral judgment. The delinquents scored significantly higher on the E trait than those in the problem behavior group, significantly higher on N than the contrast group, and higher on P than either of the other two groups.

Aleixo and Norris (2000) examined personality and moral reasoning in convicted, young male offenders (N = 101). The goal of the investigation was to examine delinquent behavior and moral reasoning in relation to the personality traits P, E, and N. The study employed the short form of the JEPQ to assess personality, the Sociomoral Reflection Measure (SRM) (Gibbs & Widaman, 1982) to assess moral reasoning, and the Self-Reported Delinquency Scale (SRD) (Elliot, Ageton, Huizinga, Knowles, & Canter, 1983) to assess delinquent behaviors. The P and E traits had significant positive correlations.
with delinquent behaviors. The E trait also had a significant correlation with moral reasoning as measured by the SRM. There were no significant correlations with N trait scores.

The present study evaluated Eysenck’s morality hypothesis by testing for differences in self-reported problem behavior and moral reasoning in participants grouped by their personality profile. In most prior studies based on Eysenck’s theory, the independent variable was behavior. A proper test of Eysenck’s morality hypothesis requires that the independent variable be personality since it is hypothesized to be the predisposing factor and the dependent variables should be behavior and moral reasoning since they are the hypothesized outcomes influenced by personality (Center, Jackson, & Kemp, in press; Jackson & Center, 2002).

The morality hypothesis predicts that those persons low on both the E and N traits will report more appropriate behavior than those persons high on both traits. To test this hypothesis the P trait should be controlled to reduce the influence of this trait on the dependent measures. If data support the prediction, the presence of a better-developed system of behavioral inhibitions in persons low on both the E and N traits would be indirectly supported. This study also tested the possibility that differences in learning predicted for persons with different profiles on the E and N traits will be reflected in differences in the development of moral reasoning as well.

Method

Setting

The study was conducted in the second largest school system in the state of Georgia. This county school system serves approximately 93,000 students with
approximately 13,000 of the total enrollment in special education. It is a relatively
diverse school system as evident by the following ethnic break down of the students:
Whites (66.08%), Black (22.35%), American Indians (.21%), Hispanic (5.96%), Asian
(3.31%), and Multi-racial (2.09%). Three middle schools, three high schools and two
alternative schools in this school system were asked to participate. One school from each
category agreed to participate.

Participants

All students at the three schools were invited to participate in the study. Those
students who indicated an interest were provided with both a personal and parental
consent form. The consent form had previous been reviewed and approved by both the
school system and the university’s institutional review board for the protection of human
subjects. A total of 458 students agreed to participate and returned signed consent forms.

Screening data was collected on the 458 participants. The screening data was then
evaluated to determine how many participants would meet the two personality profiles
need for the study. To identify participants with the desired personality profiles
participants’ scores were compared to composite mean and standard deviation scores.
First, a composite mean and standard deviation for the JEPQ scales were developed using
the norms for 11 to 15 year olds in the manual (H. Eysenck & S. Eysenck, 1975). The
composites were computed using statistical procedures considered appropriate for
aggregating such values (Hedges & Olkin, 1985).

The aggregates were computed for boys and for girls across the ages of 11
through 15. The aggregate mean was computed by multiplying the \( n \) value times the
mean value for each age group for boys and girls separately (e.g., 220 x 3.81 = 838.2).
These values were summed across age groups and divided by the sum of n across age groups to obtain an aggregate mean for each gender. To obtain an aggregate SD, the variance for each age level for each gender was computed by using SD squared. The value for variance was then multiplied by \( n-1 \) where n was the number of age groups. The resulting values were summed across age groups and divided by the cumulative n minus the number of groups. The square root of the resulting value provided the aggregate SD.

In males the composite means and standard deviations for P were \((M = 4.42, SD = 3.11)\), for E \((M = 18.81, SD = 3.79)\), and for N \((M = 10.18, SD = 5.0)\). In females the composite means and standard deviations for P were \((M = 2.48, SD = 2.16)\), for E \((M = 18.41, SD = 3.62)\), and for N \((M = 11.86, SD = 4.87)\).

The participant pool was screened using a conditional test that identified participants who, using separate criteria for gender, were above the composite mean for E and N and were within the normal range of variation for P and conversely identified participants who were below the composite mean for E and N and within the normal range of variation for P. All participants who met the screening criteria were then sorted by personality profile, gender and age. Finally, participants in the two personality profile groups were matched by gender and by age. Where participants had to be eliminated to produce a matched set of participants, they were removed randomly using selection by a random number generator. The final result was a matched sample with two groups or 30 students matched for age and gender. Each group was comprised of 18 males with an age range of 11-15 years with a mean age of 13 years and 12 females with an age range of 11-15 and a mean age of 13 years and 3 months.
Instrumentation

Three instruments were administered to the participants: the Junior Eysenck Personality Questionnaire (JEPQ) (H. Eysenck & S. Eysenck, 1975), the Externalizing Scale of the Youth Self-Report (YSR) (Achenbach, 1991) and the Defining Issues Test (DIT) (Rest, 1990). The JEPQ was used to assess personality, the Externalizing Scale of the YSR to assess self-reported conduct problems and the DIT to assess moral reasoning.

The JEPQ is a child version of the adult Eysenck Personality Questionnaire. It is comprised of 81 items standardized on a sample of 3,387 children (1,751 males and 1,636 females). Ages of the sampled participants ranged from 7 through 15 years. The questionnaire assesses the three personality traits (P, E, and N) used in Eysenck’s theory of personality and includes a Lie (L) scale score assessing a person’s inclination to give socially expected responses. Test-retest reliability scores on the P, E, N, and L scales gathered over a one month period ranged from $r = .61$ to $.79$ for children age 12 through 14 years. Internal reliability is moderate to high, $r = .61$ to $.85$ (H. Eysenck & S. Eysenck, 1975). The JEPQ was originally standardized on a sample of children from England. Middlebrooks and Wakefield (1987) conducted a study with a sample of students from the United States. No statistically significant differences were found between the means and standard deviation scores of American children and British children.

The YSR contains two broadband scales for problem behaviors: the Externalizing Scale and the Internalizing Scale. Only the Externalizing Scale of the YSR, which assesses the antisocial behaviors of interest in this study, was used. The Externalizing Scale consists of 33 items directed at behaviors such as disrespect for authority, bullying, fighting and lying. Students responded on a Likert scale ranging from zero to two where
two is the highest rating. Christenson (1992) reported that the YSR was a highly reliable and valid instrument that used excellent standardization procedures. The median test-retest reliability reported was $r = .81$. The YSR also can discriminate between students with problem behaviors and those who do not have problem behaviors (Elliot & Busse, 1992).

The DIT is an instrument to assess moral reasoning based on Kohlberg’s developmental theory of moral development. The DIT provides scores for moral reasoning stages and summary scores labeled P and D. Hereafter, the P score will be referred to as the Pd score to avoid confusion with the P scored from the JEPQ. The Pd score is the most frequently used score from the DIT for research purposes (Rest, 1990). The DIT can be administered in a six-story form or a shorter three-story form, which was used in this study. The Pd score from the short version is reported to correlate at $r = .91$ with the Pd score from the full version. Test-retest reliability for the Pd score from the short form of the DIT ranges from .58 to .77. The Cronbach Alpha for the Pd score from the short form is reported at .76 (Rest, 1990).

Validity of the DIT has been assessed in a variety of ways (Rest, Narvaez, Thoma, & Bebeau, 1999). The DIT has been shown to 1) differentiate among various age and education groups; 2) to measure developmental change over time; 3) to correlate significantly with measures of moral comprehension; 4) to reflect change following moral education interventions; 5) to correlate significantly with political attitudes and choices; and finally 6) to correlate significantly with prosocial behavior and decision-making.
Procedure

The three instruments were administered to students in small groups the size of which depended on the number of students participating in a given classroom. Data collection was not conducted on a fixed schedule but was done whenever it least interfered with participants’ program of study. Instruments were read aloud to the students to compensate for possible differences in reading skill. The administration time for the three instruments was approximately 40-55 minutes. The instruments were administered in three counterbalanced sequences to control for sequence effects. Data collection was done by either the principle investigator or trained assistants. The assistants were trained on administration procedures and evaluated using an observational checklist. The criterion for successful training was 100% accuracy in following the specified procedures.

If there was an interruption in the administration of the instrument (e.g., an announcement over the PA system or an unexpected visitor whose presence required testing to stop), the students were instructed to turn their instrument face down in front of them until testing could be resumed. Participants were encouraged to ask a question if they did not understand something. The most frequent questions were about vocabulary (e.g., meaning of rubbish). All replies to questions were public and accessible to the other participants. Vocabulary questions were answered with a dictionary definition of the word. Discussion of items was not permitted. When questions arose about the meaning or intent of an item, the participants were instructed to use their best judgment.
Design

A two-group quasi-experimental design was used where the two groups represented two different combinations of scores on the E and N traits. Specifically, participants were grouped into the following combinations. There was a low E and low N group where low was defined as below the means for both trait scores. There was a high E and high N group where high was defined as above the mean for both trait scores. Since the prediction being tested was based on the combination of E and N when both were either high or low, the P score also had to be within the normal range of variation for a participant to meet the criteria for inclusion in one of the groups. Thus, the independent variable was fixed with two levels (high and low).

Results

Statistical Findings

The first analysis conducted was a test to determine if the formation of the two groups for the study had the required characteristics. An ANOVA was run in which the three trait scores were tested for significant differences between the two groups. The results of that analysis confirmed that the variable represented by P had been controlled. There was no statistically significant difference between the two groups on P ($F(1, 59) = 1.516, p < .223$). There was a statistically significant difference between the groups on E ($F(1, 59) = 124.174, p < .001$) and on N ($F(1, 59) = 118.624, p < .001$). Thus, the personality profiles needed for the two groups were achieved.

An ANOVA was also used to test for differences between the two levels of the independent variable (high E and high N versus low E and low N) for the two dependent variables: problem behavior and moral reasoning (see Table 1). The study hypothesized
that there would be a significant difference in self-reported problem behavior between participants low on both the E and N traits and participants high on both the E and N traits. The test of the first hypothesis yielded a statistically significant difference ($F(1, 59) = 6.836, p < .01$). The low group had a significantly lower mean score on the YSR ($M = 13.73, SD = 6.51$) than the high group ($M = 18.47, SD = 7.48$). The standardized effect size ($ES$) for the YSR was moderately high (Cohen, 1988) ($ES = .67$). The test of the second hypothesis also yielded a statistically significant difference ($F(1, 59) = 7.176, p < .01$). The low group had a significantly higher mean score on the DIT ($M = 23.89, SD = 12.75$) than the high group ($M = 16.11, SD = 9.51$). The standardized $ES$ for the DIT was high ($ES = .89$).

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Insert Table 1 about Here
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Finally, separate backward regression analyses were run against both dependent variables using E, N and the interaction of E and N (EN) as the independent variables to determine which variables best predicted the YSR and DIT scores. The regression for the YSR yielded a model that was significant ($F = 12.33 (1, 59), p < .001$). The adjusted $R$ Square for this model was .161. The one variable retained in the model was the interaction term EN. The standardized Beta for EN was .419. The regression for the DIT yielded a model that was significant ($F = 11.7 (1, 59), p < .001$). The adjusted $R$ Square for this model was .154. The one variable retained in the model was E. The standardized Beta for E was .410.
Discussion

The first hypothesis in this study evaluated Eysenck’s morality hypothesis in which he predicted that individuals with low trait scores on both the E and N scales would more easily acquire behavioral inhibitions and would therefore have lower levels of problem behavior. Additionally, the current study tested for hypothesized differences between high E and N and low E and N groups in moral reasoning.

The data analysis supported the prediction that low E and N participants would report lower levels of problem behaviors on the YSR. This finding supported Eysenck’s morality hypothesis and provides indirect support for a better-developed system of behavioral inhibitions or conscience in those participants. The finding also confirms the results in an earlier study (Jackson & Center, 2002), which used smaller, unmatched samples in which there was no attempt to control for the effect of the P trait. The finding for differences in problem behavior is consistent with many earlier studies evaluated by Center & Kemp (2002) and a recent study (Center, Jackson, & Kemp, in press).

The second hypothesis tested was also supported. Participants with low E and N trait scores had a significantly higher mean score on the DIT. Eysenck’s morality hypothesis did not specifically predict that moral reasoning would be affected by the E and N traits. However, the E trait has been shown to affect an individual’s susceptibility to reinforcement and punishment, which would be expected to have an impact on any aspect of functioning influenced by learning. There have only been a few studies that have tested for a relationship between moral reasoning and Eysenckian traits. The present finding is counter to the finding in Furnham and Barratt (1988) that found no difference between their groups in moral reasoning. Aleixo and Norris (2000) found a significant
correlational between moral reasoning and personality in delinquents. Their participants’ P and E scores were both significantly correlated with conviction behaviors. Unlike the present study, both of these studies formed their groups on the basis of presence or absence of predicted behaviors rather than on the basis of personality.

The findings for the regression analyses are consistent with what would be expected. The best regression model for predicting the YSR used only the interaction of E and N. Theory predicts that inhibitions for problem behaviors will be more likely to be weaker in individuals high on E and individuals high on N will also be more easily aroused to action and their behavior will be more intense and have greater duration than would typically be the case. Thus, finding of better behavior would be expected in participants low on both E and N, which was what the participants in this study reported.

Further, the best regression model for predicting the DIT used only E. This is consistent with the prediction that a developmental trait like moral reasoning should be affected by a factor with general effects on learning. As measured by the DIT, participants low on E had better developed moral reasoning abilities than those high on E. While both regression analyses were significant at the .001 level, the amount of variance accounted for by the regression was low adjusted $R^2$s of .15 and .16. Center, et al. (in press) evaluated the combined effects of PEN and L on behavior as assessed by the YSR and found that differences between groups dichotomous on these traits produced an effect size of 2.45, which is considered very large (Cohen, 1988). The best model from the regression analysis in that study found the largest amount of variance accounted for by the interaction of P and E along with L. The adjusted $R^2$ for this model was .670. Clearly, significant contributions to problem behavior are being made by the P trait,
which was controlled in the present study, along with the L score, which is generally taken as an indicator of degree of socialization. Due to the powerful effects associated with P (Center & Kemp, 2002; Center, Jackson, & Kemp, in press), the effect of P, especially in relation to moral reasoning, needs to be evaluated.

The present study was only able to grossly control for cognitive development by matching participants by age and gender, both of which have some relationship to cognitive development. Mental age would have been added in this study had the data been available to the researchers, but access was not permitted. Future studies examining moral reasoning should attempt to better control for cognitive development.

The sample used in this study was not randomly selected. Further the sample was selected to meet specific criteria chosen to achieve a test of the morality hypothesis with as few confounds as possible. Thus, the generalizability of the results is limited to the characteristics of the participants.

There may be limitations related to the use of composite means and standard deviation scores as criteria for selecting participants and assigning participants to groups. Use of age specific means and standard deviation scores might result in a somewhat different sample composition that could affect the outcome. However, the logistics of producing an adequate sample using age specific means and standard deviations make for a very difficult task.

The tests used to operationalize the variables in this study were selected on the basis of their good psychometric properties. However, participants have different attitudes toward tests and different motivations when taking tests that can affect the accuracy of the responses obtained. Tests, especially of such constructs as personality and
moral reasoning have imperfections and are, at best, only approximate measures of the constructs they purport to measure.

Additional studies are needed to confirm the findings in this investigation. It is important that future studies employ personality profile as the independent variable rather than as a dependent variable. Eysenck’s hypotheses clearly postulate personality as a facilitating variable (Eysenck, 1997b). His traits are constructs that provide a conceptual interface between the distal and proximal antecedents for behavior and outcomes or proximal and distal consequences. Both moral reasoning and conduct behavior should probably be classified as distal consequences. Thus, the traits, as mediating constructs between antecedents and consequences, should be used as independent variables, not distal consequences as has been the case in most studies. Additionally, Eysenck’s hypotheses (1976, 1997a) are usually phrased in terms of the interaction of traits rather than in terms of the actions of single traits. When trait scores are used as dependent variables the interactive effects are not being assessed. Only by using trait combinations as the basis for independent variables can the interactive effect of the traits on such outcomes as conduct or moral reasoning be properly evaluated.
References


Diego: Educational and Industrial Testing Service.


Table 1

**ANOVA summary table of problem behavior and moral reasoning across high and low groups of E and N traits**

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