

Normative Behavior and Creativity of Adolescents: the Ability to Harmoniously Combine Antipodal Qualities, is this possible?[□]

Larisa F. Bayanova^a, Aisalu Ganieva^{b*}

^a Federal Scientific Center for Psychological and Interdisciplinary Research, Moscow, Russian Federation

^b Kazan (Volga Region) Federal University, Kazan, Russian Federation

* Corresponding author. E-mail: ganieva.aislyu@mail.com

ABSTRACT

Background. The study of *cultural congruence* as a personality trait that influences teenagers' behavior regulation relative to age-typical rules is an important task for developmental psychology. The range of rules, with all their diversity, has an invariant series, with each age stage having a unique invariant component to this diversity. The of researching cultural congruence among creative teenagers arises from the contradiction between the need to follow typical rules and the conditions for fostering creativity which are associated with the atypicality and originality of creative outputs. Moreover, there is an insufficient number of studies addressing the nature of the relationships between adolescents' antipodean psychological qualities (i.e. cultural congruence and creativity).

Objective. To analyze the relationship between cultural congruence and creativity and the degree to which divergent thinking influences cultural congruence in adolescents.

Design. The study was conducted in 4 stages from March 2021 to March 2022. In total 272 adolescents, 13 to 16 years old, took part in the research ($M = 14.21$; $SD = 1.02$). Out of these, 133 were female, and 139 were male. The battery of techniques included: a creative personality characteristics' survey, designed by F. Williams, modified by E. Tunik (Tunik, 2003), a technique to determine the adolescents' cultural congruence level (Bayanova, & Minyaev, 2016), and a creative abilities test (Zivert, 1998). The assessment parameters of the included characteristics such as curiosity, imagination, risk-taking, self-organization, resourcefulness, divergent thinking, cultural congruence - the ability to regulate behavior according to the rules typical for the social situation of development in adolescence. Mathematical data processing was carried out using descriptive statistics, correlation analysis via the Pearson r -test, the Chaddock scale, and one-way analysis of variance ANOVA.

[□] This article is a modified version of a previous paper by Bayanova, L.F., Ganieva, A. (2023). Kreativnost' i kul'turnaia kongruentnost' podrostkov [Creativity and Cultural Congruence in Adolescence]. *National Psychological Journal* [Natsionalny Psikhologicheskyy Zhurnal], 18(4), 16–24. <https://doi.org/10.11621/npj.2023.0402>

Results. The study of indicators such as divergent thinking, creative characteristics and adolescents' cultural congruence revealed a significant inverse relationship between the structural component of cultural congruence; namely, *security* and *divergent thinking*. This relationship was observed at the 95% confidence level ($p \leq 0.05$; $r = -12$), confirming our hypothesis. At the conclusion of the research, we conducted an analysis of variance using the one-way ANOVA method. The result of this analysis indicated that the parameter for divergent thinking and its influence on the adolescents' cultural congruence is insignificant.

Conclusion. The data obtained during the study shows a weak interconnection of antithetical factors such as creativity and cultural congruence. The results indicate an inverse relationship between creativity and a single parameter, the *security* scale according to the method for determining the adolescents' cultural congruence. The data revealed from the studied parameters differ from the results found earlier when studying the behavior regulation and creativity of children of pre-school and primary school age.

Keywords: Teenager, cultural congruence, creativity, divergent thinking, normative situation

Highlights:

- Within this study, theories devoted to normative behavior and creativity are examined in detail. The research explores how theoretical postulates are reflected in the practical research of scholars from different countries. It is worth noting that while authors from different countries consider this concept of normative behavior in different contexts, they demonstrate a common understanding of the concept of creativity.
- This study demonstrates that current psychological science includes research on the relationship between creativity and normative behavior across various age groups, such as children, primary school students, and the elderly. However, the results for adolescents are unique to this study, highlighting its novelty.
- The results obtained from the sample of adolescents were noteworthy as it demonstrated the stereotypical, non-creative decisions in situations related to safety. These conclusions were drawn from the weak inverse relationship found between creativity and normative behavior as reflected by the *security* and *divergent thinking* factors. The obtained data make a significant contribution to the psychology of adolescent behaviour and the foundational patterns of their personal and psychological development.

АННОТАЦИЯ

Актуальность. Изучение культурной конгруэнтности как личностного свойства, определяющего регуляцию поведения подростка относительно типичных для возраста правил, является важной задачей для психологии развития. Спектр правил при всем их многообразии имеет инвариантный ряд. Для каждого возрастного этапа эта инвариантная часть многообразия специфична. Проблема исследования культурной конгруэнтности креативных подростков определяется противоречием, которое складывается между необходимостью следования типичным правилам и условиями развития креативности, связанной с атипичностью, оригинальностью продуктов творческой деятельности. Отмечается недостаточность исследований о характере соотношений антиподных психологических свойств подростков: культурной конгруэнтности и креативности.

Цель. Анализ характера взаимосвязи культурной конгруэнтности и креативности; изучение степени влияния дивергентного мышления на культурную конгруэнтность подростков.

Методики и выборка. Исследование проводилось в 4 этапа в период с марта 2021 года по март 2022 года, в нем приняли участие 272 подростка, в возрасте от

13 до 16 лет ($M=14,21$; $SD=1,02$). Из них 133 человека — женского пола, а 139 — мужского. В батарею методик вошли: опросник творческих характеристик личности Ф. Вильямс, адаптирован Е.Е.Туник (Туник, 2003), методика определения уровня культурной конгруэнтности для подростков (Баянова, Миняев, 2016), тест на определение творческих способностей (Зиверт, 1998). В рамках исследования оценивались такие параметры как любознательность, воображение, склонность к риску, самоорганизованность, находчивость, дивергентное мышление, культурная конгруэнтность — способность к регуляции поведения относительно правил, типичных для социальной ситуации развития в подростковом возрасте. Математическая обработка данных проводилась с помощью методов описательной статистики, корреляционного анализа по g -критерию Пирсона, шкалы Чеддока, однофакторного дисперсионного анализа ANOVA.

Результаты. В результате исследования показателей дивергентного мышления, творческих характеристик и культурной конгруэнтности подростков из всего многообразия дихотомических связей, значимая обратная взаимосвязь была обнаружена между структурной компонентой культурной конгруэнтности — «безопасностью» и дивергентным мышлением на уровне 95% достоверности ($p \leq 0,05$; $r = -12$). Данный факт свидетельствует о том, что наша гипотеза подтвердилась. На последнем этапе исследования нами был проведен дисперсионный анализ с помощью однофакторного метода ANOVA. В результате данного анализа было установлено, что влияние дивергентного мышления на культурную конгруэнтность подростков несущественно.

Выводы. Данные, полученные в ходе исследования, указывают на слабую взаимосвязанность антитезных факторов — креативности и культурной конгруэнтности. Результаты указывают на наличие обратной связи между креативностью и единственным параметром — шкалой «безопасность» по методике на определение культурной конгруэнтности подростков. Выявленные данные исследуемых показателей имеют различия с результатами, обнаруженными ранее при изучении регуляции поведения и креативности детей дошкольного и младшего школьного возраста.

Ключевые слова: Подросток, культурная конгруэнтность, креативность, дивергентное мышление, нормативная ситуация

Ключевые положения:

- В рамках данной работы подробнейшим образом рассмотрены теории, посвященные нормативному поведению и креативности. Рассмотрено как теоретические постулаты находят свое отражение в практических изысканиях исследователей из разных стран. Стоит отметить, что при изучении нормативности поведения авторы из разных стран рассматривают содержание этих понятий в разных контекстах, а при изучении креативности демонстрируют единое понимание данного понятия.
- Отмечается, что на сегодняшний день в психологической науке описаны результаты исследования взаимосвязи креативности и нормативности поведения представителей разных возрастных периодов: детей, младших школьников, пожилых и только в рамках этого исследования представлены результаты подростков, что и составило новизну данного исследования.
- Интересными представляются результаты, полученные на выборке подростков, которыми были продемонстрированы шаблонность, акреативность решений **в ситуациях, в ситуациях**, касающихся безопасности. Такие выводы были сделаны ввиду того, **что что** между креативностью и нормативным поведением была обнаружена слабая обратная связь по компонентам «безопасности» и «дивергентным мышление». Полученные результаты вносят важный вклад в понимание психологии поведения подростков и основ закономерностей развития их личностных и психологических составляющих.

RESUMEN

Relevancia. El estudio de la congruencia cultural como una propiedad de la personalidad, que determina la regulación del comportamiento del adolescente con respecto a las reglas típicas de la edad, es una tarea importante para la psicología del desarrollo. El espectro de reglas, con toda su variedad, tiene una serie invariante. Para cada etapa de edad, esta parte invariante de la variedad es específica. El problema de la investigación de la congruencia cultural de los adolescentes creativos está determinado por la contradicción que se forma entre la necesidad de seguir las reglas típicas y las condiciones para el desarrollo de la creatividad asociada con la atipicidad, la originalidad de los productos de la actividad creativa. Hay una falta de investigación sobre la naturaleza de las relaciones entre las propiedades psicológicas antípodas de los adolescentes: congruencia cultural y creatividad.

El objetivo. Analizar la naturaleza de la relación entre la congruencia cultural y la creatividad; examinar el grado de influencia del pensamiento divergente en la congruencia cultural de los adolescentes.

Métodos y muestra. El estudio se realizó en 4 etapas entre marzo de 2021 y marzo de 2022, con 272 adolescentes, de 13 a 16 años ($M = 14,21$; $SD = 1,02$). De ellos, 133 son mujeres y 139 son hombres. La batería de métodos incluyó: un cuestionario de características creativas de la personalidad F. Williams, adaptado por E. E. Tunik (Tunik, 2003), un método para determinar el nivel de congruencia cultural para adolescentes (Bayanova, Minyaev, 2016), una prueba para determinar las habilidades creativas (Zivert, 1998). El estudio evaluó parámetros como la curiosidad, la imaginación, la propensión al riesgo, la autoorganización, el ingenio, el pensamiento divergente, la congruencia cultural: la capacidad de regular el comportamiento con respecto a las reglas típicas de la situación social del desarrollo en la adolescencia. El procesamiento matemático de los datos se llevó a cabo mediante métodos de Estadística descriptiva, análisis de correlación según la prueba R de Pearson, escala de Cheddock, análisis de varianza ANOVA univariado.

Resultados. Como resultado de la investigación de los indicadores del pensamiento divergente, las características creativas y la congruencia cultural de los adolescentes de toda la variedad de relaciones dicotómicas, se encontró una relación inversa significativa entre el componente estructural de la congruencia cultural – «seguridad» y el pensamiento divergente a un nivel de confianza del 95% ($p \leq 0,05$; $r = -12$). Este hecho indica que nuestra hipótesis ha sido confirmada. En la última etapa del estudio, realizamos un análisis de varianza con el método ANOVA univariado. Como resultado de este análisis, se encontró que el efecto del pensamiento divergente en la congruencia cultural de los adolescentes no es significativo.

Conclusiones. Los datos obtenidos durante el estudio indican una débil interrelación de los factores antítesis: creatividad y congruencia cultural. Los resultados indican que existe una relación inversa entre la creatividad y un único parámetro: la escala de seguridad de la metodología para determinar la congruencia cultural de los adolescentes. Los datos revelados de los indicadores del estudio tienen diferencias con los resultados encontrados anteriormente en el estudio de la regulación del comportamiento y la creatividad de los niños en edad preescolar y primaria.

Palabras clave: Adolescente, congruencia cultural, creatividad, pensamiento divergente, situación normativa

Disposiciones clave:

- En este trabajo, se examinan en detalle las teorías sobre el comportamiento normativo y la creatividad. Considerado como los postulados teóricos se reflejan en las investigaciones prácticas de investigadores de diferentes países. Vale la pena señalar que al estudiar la normatividad del comportamiento, los autores de diferentes países consideran el contenido de estos conceptos en diferentes contextos, y al estudiar la creatividad demuestran una comprensión unificada de este concepto.
- Se observa que hasta la fecha, en la ciencia psicológica se describen los resultados del estudio de la relación entre la creatividad y la normatividad del comporta-

miento de representantes de diferentes edades: niños, estudiantes de secundaria, ancianos y solamente en el marco de este estudio se presentan los resultados de los adolescentes, lo que constituyó la novedad de este estudio.

- Son interesantes los resultados obtenidos en una muestra de adolescentes, que demostraron el carácter estereotipado y creativo de las decisiones en situaciones relacionadas con la seguridad. Se llegaron a tales conclusiones debido al hecho de que se encontró una relación inversa débil entre la creatividad y el comportamiento normativo en los componentes de «seguridad» y «pensamiento divergente». Los resultados obtenidos suponen un importante aporte a la comprensión de la psicología del comportamiento adolescente y los fundamentos de los patrones de desarrollo de sus componentes personales y psicológicos.

RESUME

Origines. L'étude de la congruence culturelle en tant que la qualité personnelle, qui détermine la régulation du comportement d'adolescent par rapport aux règles typiques de l'âge, est une mission importante pour la psychologie du développement. Le spectre des règles, dans toute leur diversité, présente une série invariante. Pour chaque étape d'âge, cette part invariante de la diversité est spécifique. Le problème d'étude de la congruence culturelle des adolescents créatifs se détermine par la contradiction qui se produit entre la nécessité de suivre des règles typiques et les conditions du développement de la créativité qui sont liées à l'atypie, l'originalité des produits de l'activité de création. Il y a un manque de recherche sur la nature des relations entre les propriétés psychologiques antipodiques des adolescents: congruence culturelle et créativité.

Objectif. Analyse de la nature de la relation entre congruence culturelle et créativité ; étudier le degré d'influence des pensées divergentes sur la congruence culturelle des adolescents.

Méthodes. L'étude a été effectuée en 4 étapes de pendant la période de mars 2021 à mars 2022, à laquelle ont participé 272 adolescents, âgés de 13 à 16 ans ($M = 14,21$; $SD = 1,02$). Parmi eux, 133 sont des femmes et 139 sont des hommes. La batterie de méthodes comprenait : un questionnaire sur les caractéristiques de la personnalité créative (batterie d'évaluation du potentiel créatif de F. Williams, adaptée par E.E. Tunik (Tunik, 2003)), une méthode pour déterminer le niveau de congruence culturelle des adolescents (Bayanova, Minyaev, 2016), un test pour déterminer capacités créatives (Sievert, 1998). L'étude a évalué des paramètres tels que la curiosité, l'imagination, l'appétit pour le risque, la bonne organisation, l'ingéniosité, la pensée divergente, la congruence culturelle - la capacité à réguler le comportement par rapport aux règles typiques de la situation sociale de développement à l'adolescence. Le traitement des données mathématiques a été effectué à l'aide de méthodes de statistiques descriptives, d'analyse de corrélation à l'aide du test-r de corrélation de Pearson, de l'échelle de Chaddock et d'une analyse de variance unidirectionnelle ANOVA.

Résultats. À la suite d'une étude des indicateurs de pensée divergente, de caractéristiques créatives et de congruence culturelle des adolescents à partir de toute la variété de liaisons dichotomiques, une relation inverse significative a été trouvée entre la composante structurelle de la congruence culturelle - « sécurité » et la pensée divergente au niveau de 95 % de confiance ($p \leq 0,05$; $r = -12$). Ce fait indique que notre hypothèse a été confirmée. Lors de la dernière étape de l'étude, nous avons effectué une analyse de variance en utilisant la méthode ANOVA unidirectionnelle. À la suite de cette analyse, il a été constaté que l'influence des pensées divergentes sur la congruence culturelle des adolescents est insignifiante.

Conclusion. Les données obtenues au cours de l'étude indiquent une faible interdépendance de facteurs antithétiques - la créativité et la congruence culturelle. Les résultats indiquent la présence d'une relation inverse entre la créativité et un seul paramètre - l'échelle de « sécurité » selon la méthode de détermination de la congruence culturelle des adolescents. Les données révélées des indicateurs étudiés diffèrent des résultats trouvés

précédemment lors de l'étude de la régulation du comportement et de la créativité des enfants d'âge préscolaire et primaire.

Mots-clés: Adolescent, congruence culturelle, créativité, pensée divergente, situation normative

Points principaux:

- Dans le cadre de ce travail, les théories consacrées au comportement normatif et à la créativité sont examinées en détail. On examine comment les postulats théoriques se reflètent dans la recherche pratique des chercheurs de différents pays. Il convient de noter que lorsqu'ils étudient le comportement normatif, les auteurs de différents pays considèrent le contenu de ces concepts dans différents contextes, et lorsqu'ils étudient la créativité, ils démontrent une compréhension commune de ce concept.
- Il est à noter qu'aujourd'hui, en science psychologique, les résultats d'une étude sur la relation entre la créativité et le comportement normatif de représentants de différentes tranches d'âge sont décrits : enfants, écoliers du primaire, personnes âgées, et seulement dans le cadre de cette étude les résultats des adolescents sont présentés, ce qui constitue la nouveauté de cette étude.
- Il est intéressant de noter les résultats obtenus auprès d'un échantillon d'adolescents, qui démontrent le caractère stéréotypé et non créatif des décisions dans des situations liées à la sécurité. De telles conclusions ont été tirées du fait qu'une faible relation inverse a été trouvée entre la créativité et le comportement normatif sur les composantes de « sécurité » et de « pensée divergente ». Les résultats obtenus apportent une contribution importante à la compréhension de la psychologie du comportement des adolescents et des fondements des schémas de développement de leurs composantes personnelles et psychologiques.

Introduction

Today, the adolescents' behavior is of interest to many researchers. At the same time, various forms of behavior are studied including, for example, deviant, addictive, normative behaviors. This research examines in detail the adolescents' behavior in accordance with public cultural norms. It is known that behavior analysis is always associated with a normative situation, defined as "a standard situation of social interaction in which the rules of social behavior are quite accurately defined" (Veraksa, 2000, p. 84). The basis of a normative situation is the rule according to which the behavior regulation is formed. The rules governing behavior, with all their diversity, have an invariant spectrum, typical for each age stage in ontogenesis.

In international studies, the normative context of child development is explained through the construct of a cultural *developmental niche*; a certain set of values, rules, goals through which culture influences child development (Super & Harkness, 1997). The developmental niche has a significant impact on the child's behavior (Cazden & Hymes, 1972), namely on the formation of culturally desired outcomes (Albert & Trommsdorff, 2014), which consequently is thought to contribute to the formation of a sense of self (Markus & Kitayama, 2010) and self-regulation (Trommsdorff & Cole, 2011). The studies in Russia have identified typical rules that shape patterns of behavior in *pre-school* age children (Bayanova & Mustafin, 2016), in primary school age children (Bayanova et al., 2016) and in adolescence (Bayanova & Minyaev, 2019). Since rules are translated by culture and at the same time are produced within it, the behavior regulation cannot be explained in isolation. A stable set of personal traits,

manifested in the behavior regulation relative to the rules typical for a social situation of development, is defined as *cultural congruence*. (Bayanova & Ganieva, 2023). We highlight an important point: the range of rules, despite their diversity, includes an invariant set that is specific to each stage of development.

In modern Russian research, cultural congruence is considered in the context of various mental phenomena, for example, in connection with executive functions (Veraksa et al., 2018) and the thinking type in *pre-school* age children (Bayanova, Mustafin, 2015). In particular, the cognitive executive functions manifest in children with different cultural congruence levels are studied (Popova, 2020). The Tsivilskaya (2018) that examines the specifics of the relationship between cultural congruence and the ability to plan in primary school age children deserves special attention in this context. Also, research is being conducted among primary school children to study correlations between the cultural congruence level and internet addiction (Leonov et al., 2021). A study of the cultural congruence level and teenagers' personal traits demonstrates its integration into the personal traits system (Bayanova, Minyaev, 2018). In international studies, cultural congruence is viewed from a different perspective. For example, international scientists are interested in how juveniles can behave in accordance with the cultural rules of rural areas (Nimmo et al., 2020) and how their behavior differs in school and home environments (Foster, Lewis & Onafowora, 2003), or in digital environment (Lindgaard, Dudek & Chan, 2013). There are also studies regarding the behavior normativity that corresponds with language characteristics (Labov, 1972); behavioral differences between American and Korean cultures (Ko, Seo, & Jung, 2015). Additionally, Maori cultures (Huriwai, 2002) have been analyzed. Cultural congruence has been studied among members of American culture with different racial backgrounds (Solon, 1972). Neuropsychologists initiated a large-scale research in which a comparative analysis of the biological structure of the brain of adolescents with socially acceptable and deviant behavior (Fairchild et al., 2016) resulting in evidence that revealed the brain's orbitofrontal cortex of these sets of adolescents have significant structural differences. A variety of studies by international and Russian scientists show that the reasons for the adolescents' culture-incongruent behavior may lie not only in socio-psychological context, but also in anthropobiological developmental features.

An independent line of our research focused on the connection between normative behavior and creativity. Here we found a general pattern of inverse relations between normative behavior and creativity. A study of five- and six-year-old children revealed that *pre-school* children with a high creativity level have low cultural congruence rates (Bayanova, 2014). Similar trends that suggest creativity does not correlate with cultural congruence have been shown in studies of samples of primary school children (Bayanova & Chulyukin, 2018), among young people (Zheng et al., 2023) and among elderly people (Goulding et al., 2018). The results of studying creativity (Bayanova & Khamatvaleeva, 2022) in correlation with cultural congruence supports the prevailing view that a creative person is less inclined to follow rules.

The problem of behavior regulation regarding rules and creativity is connected, in our opinion, with the fact that a creative solution, as a rule, is a consequence of going beyond the generally accepted (Bogoyavlenskaya, 2002). A creative personal-

ity is prone to autonomy and nonconformism (Lubart, 2009). Within this context, it is worthwhile to consider the connection between creativity and a variety of factors including *conflict* (Fedorova, 2019), *discipline* (Dorfman et al., 2021) and *deviant behavior* (Meshkova, Enikolopov, 2020). There is also a separate cohort of research, including the Charness and Grieco (2021) study that examined creativity in with the context of corporate culture , where it was proven that within highly developed corporate culture, employee productivity and creative abilities increase.

Our research question seeks to clarify the extent to which cultural congruence and creativity are aligned among adolescents. Namely, whether adolescents with a high creativity level tend to exhibit behavioral conformity in accordance with cultural rules at the same high level.

Methods

Participants

As part of this study, we analyzed the test results of 272 adolescents, who were of 13 to 16 years old ($M = 14.21$; $SD = 1.02$). Out of these, 133 people were female, and 139 were male. The research participants were students of the 7th, 8th, 9th grades of Multidisciplinary Lyceums in Kazan. In the total sample there were 110 students of the 7th grade, 71 students of the 8th grade and 91 students of the 9th grade.

Procedure

The battery of techniques included, the *determining the adolescents' cultural congruence level* method (Bayanova & Minyaev, 2016), which identifies the compliance of adolescents' behavior with cultural rules. The test consists of 51 different statements reflecting rules relevant to the typical adolescent. During the psychometric evaluation of the method, factors into which these rules were grouped were identified. Therefore, within this technique, the conformity of adolescent behavior is studied on 5 scales: *self-organization*, *safe behavior*, *social interaction and attitude to educational activities*, and a general indicator of *cultural congruence*. Checking the internal consistency of the methodology scales showed that the Cronbach's α coefficient is equal to 0.949 (a high degree of test reliability) which supports the aim of using this methodology to test the congruence of adolescents' behavior with respect to cultural rules.

The identified set of techniques also included reliable and adapted techniques that have been widely used at different times in scientific research to study divergent thinking including, (1) *Creative Abilities* test (Kh. Zivert, 1998), that allows to evaluate the following components of the respondents' creativity: *resourcefulness* (H scale) and *divergent thinking* (D scale), (Cronbach's α coefficient - 0.692) through the selection of phrases that begin with certain words (e.g. *no*) and via offering all possible answers about different ways to use objects (e.g. *newspaper*) in 60 seconds for each try; (2) the *creative personality characteristics* survey (F. Williams, modified by E. Tunik, 2003), assesses the overall intellectual and personal creative qualities of adolescents on four scales: *curiosity*, *imagination*, *risk-taking*, *personality manifestations* (coefficient α - Cronbach's $\alpha = 0.921$).

The final results for all of the listed methods were subject to mathematical processing via descriptive statistics, Pearson correlation coefficient and one-way analysis of variance ANOVA.

Results

At the first stage, descriptive statistics were carried out to determine methods for identifying correlation and dispersion between indicators. According to the descriptive statistics results, the average mode and median are equal for most indicators, and skewness and kurtosis do not go beyond 1; which makes it possible to use parametric methods.

At the second stage, the relationships between intertest indicators were analyzed via Pearson correlation method. Intercorrelations between scales of all techniques were studied. Critical values of correlation coefficients were analyzed using the Chad-dock scale. The obtained data are presented in Table 1.

Table 1

Correlational relationship between cultural congruence and divergent thinking in adolescents

| Indicators | Management | Safety | Academic competence | Social interaction | General level of cultural congruence |
|--|------------|---------------|---------------------|--------------------|--------------------------------------|
| Divergent thinking (Pearson correlation) | -0.03 | -0.12* | -0.04 | -0.01 | -0.07 |

Note: «*»— $p < 0.05$ (Pearson's R-criterion)

As demonstrated in Table 1, there is a significant, reliable inverse relationship between *divergent thinking* and *security* scales ($p \leq 0.05$; $r = -0.12$). This may indicate that the less adolescents feel protected, the more they are forced to resort to divergent thinking and think about different options for overcoming difficulties.

According to the correlation rules, to determine the degree of closeness of the relationship, we will resort to the determination coefficient R. It is important for us to understand how much the variability of one variable can be explained by the variability of the second variable. Through calculations, we identify that the presence of a weak correlation ($r = -0.12$) between *cultural congruence* and *divergent thinking* can only explain 1% of the variability of the latter.

Further, within this research, we turn to the correlation analysis results pertaining to the presence of a relationship between the test values of *cultural congruence* and the *creative personal potential* of adolescents. The results demonstrate the absence of correlations between: the ability to organize one's time and space, safe behavior, desire to learn, favorable social interactions, general cultural congruence and curiosity, developed imagination, versatility, risk-taking and personality manifestations. This may attest to the view that the development of cultural congruence is not determined by the adolescents' creative characteristics development level.

Next, let's consider the correlation between *unconventional, divergent thinking* and *creative personality* characteristics. As seen from Table 1, no correlation was

found between test indicators of *divergent thinking* and *creative personality characteristics* of adolescents. This may suggest that the adolescents' creative diversity can manifest itself independently: divergent thinking can manifest itself independently, despite the presence or absence of curiosity, imagination, versatility and a propensity to take risks.

Summarizing the work done on correlation analysis using the Pearson R-criterion, it is worth mentioning that there is an inverse relationship between the indicator of *divergent thinking* and the teenagers' *security*. This pattern is consistent with our hypothesis that there is a weak negative relationship between cultural congruence and the adolescents' creative potential.

Subsequently, in order to determine the degree of influence of divergent thinking on cultural congruence, a one-way ANOVA analysis was carried out. As a factor, we identify the cultural congruence level and analyzed how creative thinking influences a teenager's tendency to adhere to the rules typical for his/her age.

To achieve the stated objective, it was decided to establish the significance of differences in the average values of divergent thinking for three groups with different cultural congruence levels (i.e. low, medium and high levels).

The results revealed that 83 people (31%) have a low divergent thinking level, 137 people (49%) have an average level, and 52 teenagers (20%) have a high divergent thinking level.

Analysis of the distribution according to the cultural congruence indicator showed that 17 teenagers have a low cultural congruence level (6%), 165 people (60%) have an average cultural congruence level, and 90 teenagers (34%) have a high cultural congruence level. These parameters are interesting, but they will not be taken into account in further calculations but are presented as accompanying data to further characterize the sample.

In order to confirm our assumption about the similarity of the divergent creative thinking average values for three samples with different cultural congruence levels, an analysis of variance was performed. Data analysis is presented in Table 2.

At this stage of the study, it was discovered that divergent unconventional thinking does not have a significant effect on cultural congruence, which is consistent with our initial hypothesis.

Table 2

Results of analysis of variance using the one-factor ANOVA method

| Source of variation | Between groups | Within groups | Total |
|---------------------|----------------|---------------|----------|
| SS | 2493.49 | 193374 | 195867.5 |
| df | 2.00 | 269 | 271 |
| df | 1246.75 | 718.86 | |
| F | 1.73 | | |
| P-Value | 0.18 | | |
| F - Critical Value | 3.03 | | |

Discussion

As a result of the study, it was discovered that the indicators of *creative potential* and *cultural congruence* had average expressiveness level for most respondents. Analysis of the presence of relationships in intertest indicators revealed that there is an inverse weak relationship between the *security* scale (according to the *determining the adolescents' cultural congruence level* method) and divergent thinking (according to the *creative personality characteristics* survey). The influence of divergent thinking on cultural congruence was not confirmed by one-way ANOVA analysis. The trend of an inverse relationship between *creativity* and *cultural congruence*, that has been identified in studies of *pre-schoolers* (Bayanova, 2014), elementary school children (Bayanova & Chulyukin, 2018), young people (Zheng et al., 2023) and the elderly (Goulding et al., 2018), is only partially preserved in adolescence is only partially preserved and is primarily evident in relation to safety rules. Consequently, in normative situations, regarding safety rules, the behavior of adolescents with a low creativity levels tends to be more culturally congruent, whereas creative adolescents may exhibit behaviour that deviates from the rules. Based on previous research on the relationship between creativity and cultural congruence in various samples, this study demonstrates significant differences. In adolescence, the dissonance between creativity and the ability to regulate behavior according to typical rules manifest minimally and is evident in relation to a single factor. The absence of correlation between creativity and cultural congruence may be a consequence of the voluntary nature of behavior that emerges at the beginning of adolescence and the strengthening of the adolescents' executive capabilities compared to those in previous development periods.

Thus, the study revealed that in adolescence, antithetical qualities such as cultural congruence and creativity can coexist, as evidenced by the weak correlation between these factors. The results allow us to conclude that creativity, divergent thinking, and mental agility do not affect the tendency to follow defined rules in adolescence. However, this research demonstrates that conformity to safety regulations require rather formulaic, uncreative solutions, as evidenced by the identified inverse correlation in this aspect.

Conclusion

Summarizing the results obtained during the study, the following conclusions could be made:

1. It was revealed that within the framework of developmental psychology, the nature of the relationship between adolescents' personal characteristics such as cultural congruence and creativity has been studied to a limited extent. According to the scientific paradigm, these characteristics are considered antipodean as confirmed by empirical studies conducted among *pre-schoolers* and primary school children. However, as research conducted among adolescents showed, in adolescence there is a weak relationship and lack of influence between cultural congruence and adolescent creativity.
2. It is revealed that in phylogenesis the degree of correlation between cultural congruence and creativity in an individual may change. Within this study, it was discovered, that cultural congruence in the context of adolescence has a weak negative relationship with creativity and only observed according to the criterion of safety.

3. It has been established that the degree to which cultural congruence develops does not affect the ability to demonstrate creativity and divergent thinking. Therefore, the development of these personal characteristics is influenced by other factors that should be established in subsequent studies.

4. It has been pointed out that the influence between cultural congruence and creativity in adolescence is fully neutralized, with divergent thinking and mental agility not affecting the tendency to follow defined rules in adolescence.

5. Identifying the interrelation between personal traits such as cultural congruence and divergent thinking in adolescents, along with continued research and an expanded sample, can form the basis for recommendations for psychological diagnostics and support for adolescents.

The practical significance of the study lies in its potential application to adolescents' socialization. The findings suggest that attention can be focused on the formation of divergent thinking and a creative personality. In this context, cultural congruence, defined as a personal trait that governs adherence to the typical social rules, is relatively autonomous from creativity. In the practical work with adolescents who exhibit high executive potential, characterized by behavior that aligns with age-typical rules, variability in their creativity should be expected.

Informed Consent from the Participants' Legal Guardians

Written informed consent by participants in this study was provided by the participants' legal guardian/next of kin.

Author Contributions

A.M. Ganieva performed the experiments, performed the analysis, drafted the manuscript and designed the figures.; L.F. Bayanova aided in interpreting the results and worked on the manuscript. All authors discussed the results and contributed to the final manuscript.

References

- Albert, I., & Trommsdorff, G. (2014). The role of culture in social development over the lifespan: an interpersonal relations approach. *Online Readings in Psychology and Culture*, 6(2), 3–28. <https://doi.org/10.9707/2307-0919.105>
- Bayanova, L. (2014). Compliance with cultural rules of children having different level of creativity. *Procedia – Social and Behavioral Sciences*, 146, 192–195. <https://doi.org/10.1016/j.sbspro.2014.08.109>
- Bayanova, L.F., & Chulyukin, K.S. (2018). The impact of cultural congruence on the creative thinking of primary school children. *Psychology in Russia: State of the Art*, 11(1), 61–70. <https://doi.org/10.11621/pir.2018.0105>
- Bayanova, L.F., & Khamatvaleeva, D.G. (2022). Obzor zarubezhnykh issledovaniy tvorcheskogo myshleniya v psikhologii razvitiia [Review of Foreign Research on Creative Thinking in Developmental Psychology]. *Vestnik Moskovskogo Universiteta. Seriya 14. Psikhologiya* [Moscow University Psychology Bulletin], 2, 51–72. <https://doi.org/10.11621/vsp.2022.02.03>
- Bayanova, L.F., & Minyaev, O.G. (2016). Podrostok kak sub'ekt normativnoy situatsii v sovremennoy zarubezhnoy psikhologii razvitiia [A teenager as a subject of a regulatory situation in modern foreign developmental psychology]. *Filologiya i Kul'tura* [Philology and Culture], 1(43), 325–331.

- Bayanova, L.F., & Minyaev, O.G. (2018). Vliianie kul'turnoi kongruentnosti na lichnostnye svoystva podrostkov [Effect of cultural congruence on adolescent personality properties]. *Kazanskii Pedagogicheskii Zhurnal* [Kazan Pedagogical Journal], 6(131), 192–196.
- Bayanova, L.F., & Minyaev, O.G. (2019). Cultural Congruence Test for Russian Adolescents. *Psychology in Russia: State of the Art*, 12(3), 163–176. <https://doi.org/10.11621/pir.2019.0304>
- Bayanova, L.F., & Mustafin, T.R. (2015). Formal'no-logicheskoe myshlenie doskol'nikov pri raznom urovne kul'turnoi kongruentnosti [Formal logical thinking of pre-schoolers at different levels of cultural congruence]. *Uchenye Zapiski Kazanskogo Universiteta. Ser. Gumanit. Nauki* [Academic notes of Kazan University. Humanities Series], 157(4), 176–182.
- Bayanova, L.F., & Mustafin, T.R. (2016). Factors of compliance of a child with rules in a Russian cultural context. *European Early Childhood Education Research Journal*, 24(3), 357–364. <https://doi.org/10.1080/1350293X.2016.1164394>
- Bayanova, L.F., Tsvilkaya, E.A., Bayramyan, R.M., & Chulyukin, K.S. (2016). A cultural congruence test for primary school students. *Psychology in Russia: State of the Art*, 9(4), 94–105. <https://doi.org/10.11621/pir.2016.0408>
- Bayanova, L.F., & Ganieva, A.M. (2023). Kreativnost' i kul'turnaia kongruentnost' podrostkov [Creativity and Cultural Congruence in Adolescence]. *Natsionalny Psikhologicheskii Zhurnal* [National Psychological Journal], 18(4), 16–24. <https://doi.org/10.11621/npj.2023.0402>
- Bogoyavlenskaya, D.B. (2002). *Psychology of creative abilities*. [Tutorial]. Moscow: Akademiya
- Cazden, C., John, V., & Hymes, D. (1972). *Functions of language in the classroom*. New York: Teachers College Press.
- Charness, G., & Grieco, D. (2021). Creativity and Corporate Culture. *The Economic Journal*, 12, 39–77. <https://doi.org/10.1093/ej/uead012>
- Dorfman, L.Y., Dubrovskii, A.V., Kurochkin, E.A., & Lyadov, V.N. (2021). Cherty lichnosti v integratsii distsiplinirovannosti s kreativnost'iu [Personality traits in integrating discipline with creativity]. *Vestnik Udmurtskogo Universiteta. Seriya: Filosofiya. Psikhologiya. Pedagogika* [Bulletin of the Udmurt University. Series: Philosophy. Psychology. Pedagogy], 31(4), 381–390. <https://doi.org/10.35634/2412-9550-2021-31-4-381-390>
- Fairchild, G., et al. (2016). Mapping the structural organization of the brain in conduct disorder: replication of findings in two independent samples. *Journal of Child Psychology and Psychiatry*, 57(9), 1018–1026. <https://doi.org/10.1111/jcpp.12581>
- Fedorova, A.A. (2019). Sviaz' kreativnosti, tseinnostei i konfliktного povedeniia sotrudnikov [Communication of creativity, values and conflict behavior of employees]. *Psikhologiya. Zhurnal Vysheishikh Shkol Ekonomiki* [Psychology. Journal of the Higher School of Economics], 16(1), 191–203. <https://doi.org/10.17323/1813-8918-2019-1-191-203>
- Foster, M.L., Lewis, J., & Onafowora, L. (2003). Anthropology, culture, and research on teaching and learning: Applying what we have learned to improve practice. *Theory into Practice*, 31(4), 303–311.
- Goulding, A., Davenport, B., & Newman, A. (2019). Resilience and Ageing: Creativity, Culture and Community. *Policy Press Scholarship Online*. <https://doi.org/10.1332/policypress/9781447340911.001.0001>
- Huriwai, T. (2002). Re-enculturation: culturally congruent interventions for Māori with alcohol- and drug-use-associated problems in New Zealand. *Substance Use Misuse*, 37(12) 59–68. <https://doi.org/10.1081/ja-120004183>
- Ko, D., Seo, Y., & Sang-Uk, J. (2015). Examining the effect of cultural congruence, processing fluency, and uncertainty avoidance in online purchase decisions in the U.S. and Korea. *Marketing Letters*, 26, 377–390. <https://doi.org/10.1007/s11002-015-9351-4>
- Labov, W. (1972). *Language in the inner city*. Philadelphia: University Pennsylvania Press.
- Leonov, S.V., Yakushina, A.A., Polikanova, I.S., & Klimenko, V.A. (2021). Vzaimosviaz' internet-zavisimogo povedeniia, intellektual'nogo razvitiia i kul'turnoi kongruentnosti u detei mladshago shkol'nogo vozrasta [Relationship of Internet-dependent behavior, intellectual development, and cultural congruence in primary school children]. *Sibirskii Psikhologicheskii Zhurnal* [Siberian Psychological Journal], 81, 215–227.

- Lindgaard, G., Dudek, C., & Chan, G. (2013). Cultural Congruence and Rating Scale Biases in Homepages. In P. Kotzé, G. Marsden, G. Lindgaard, J. Wesson, M. Winckler (Eds.), *Human-Computer Interaction* (pp. 531–538). Springer, Berlin, Heidelberg.
https://doi.org/10.1007/978-3-642-40498-6_42
- Lyubart, T. (2009). *The Psychology of Creativity*. Moscow, Kogito-Tsentr.
- Markus, H.R., Kitayama, S. (2010). Cultures and selves. A cycle of mutual constitution. *Perspectives on Psychological Science*, 5, 420–430. <https://doi.org/10.1177/1745691610375557>
- Meshkova, N.V., & Enikolopov, S.N. (2020). Kreativnost' i deviantnost': sovremennoe sostoi'anie problemy v psikhologii [Creativity and deviance: the current state of the problem in psychology]. *Psikhologiya i Pravo* [Psychology and Law], 10(3), 86–107.
<https://doi.org/10.17759/psylaw.2020100307>
- Nimmo, C., Behnke, L., Creech, C., Schellenberg, K., Turkelson, C., & Cooper, D. (2021). Using Simulation to Educate Rural NP students About Cultural Congruence. *The Journal for Nurse Practitioners*, 56, 108–116. <https://doi.org/10.1016/j.ecns.2021.04.011>
- Popova, R.R. (2020). Razvitiye kognitivnykh regulatorynykh funktsii u doshkol'nikov pri raznom urovne kul'turnoi kongruentnosti: diss. ... kand. psikhol. nauk [Development of cognitive regulatory functions in pre-schoolers at different levels of cultural congruence: dissertation]. PhD. in Psychology. Kazan.
- Solon, K.T. (1972). Social and Cultural Congruences in American Civilization. *Journal of Aesthetic Education*, 6(1), 39–52.
- Super, C.M., & Harkness, S. (1997). The Cultural Structuring of Child Development. In J.W. Berry, P.R. Dasen, T.S. Saraswathi (Eds.), *Handbook of Cross-Cultural Psychology, 2: Basic Processes and Human Development*, 2nd ed. (pp. 1–40). Boston, MA: Allyn and Bacon.
- Trommsdorff, G., & Cole, P. (2011). Emotion, self-regulation, and social behavior in cultural contexts. In G. Trommsdorff, P.M. Cole, X. Chen, K.H. Rubin (Eds.), *Socioemotional Development in Cultural Context* (pp. 131–163). New York, NY: Guilford Press.
- Tsivil'skaya, E.A. (2018). Issledovanie osobennostei teoreticheskogo myshleniia u intellektual'no odarennykh uchenikov s vysokim urovnem kul'turnoi kongruentnosti [Study of the features of theoretical thinking in intellectually gifted students with a high level of cultural congruence]. *Sovremennoe Pedagogicheskoe Obrazovanie* [Modern Pedagogical Education], 3, 9–13.
- Tunik, E.E. (2003). *Modifitsirovannyye kreativnyye testy Vil'iamsa* [Modified creative tests by Williams]. SPb., Rech.
- Veraksa, N.E. (2000). Lichnost' i kul'tura: strukturno dialekticheskii podkhod [Personality and culture: a structural-dialectical approach]. *Peremeny* [Changes], 1, 81–107.
- Veraksa, A., et al. (2018). Features of executive functions development in Moscow and Kazan preschoolers. *European Proceedings of Social and Behavioural Sciences*, XLIII, 648–658.
- Zivert, Kh. (1998). *Testirovaniye lichnosti* [Personality testing]. Moscow: Intereksper
- Zheng, M., et al. (2023). The Moderating Role of Culture on the Effect of Instructional Focus on Individual and Team Creativities. *The Journal of Creative Behavior*, 4. <https://doi.org/10.1002/jocb.575>

Original manuscript received April 8, 2024

Revised manuscript accepted June 10, 2024

First published online June 30, 2024

To cite this article: Bayanova, L.F., Ganieva, A. (2024). Normative Behavior and Creativity of Adolescents: the Ability to Harmoniously Combine Antipodal Qualities, is this possible? *New Ideas in Child and Educational Psychology*, 4(1–2), 83–96. DOI: 10.11621/nicep.2024.0405