www.psyjournals.ru/kip

Возрастная перспектива
в оптике амплификации

Age Perspective in the Optic
of Amplification

культурно-историческая
ПСИХОЛОГИЯ

cultural-historical
PSYCHOLOGY

Содержание

Contents

ВОЗРАСТНАЯ ПСИХОЛОГИЯ
DEVELOPMENTAL PSYCHOLOGY

Amplification: The Source and Tool of Development
(A Foreword by Guest Editor)

The concept of "amplification of child development" was introduced by A.V. Zaporozhets[1] in his later works. The word itself (amplification) was borrowed from the European languages, English and French, and literally means 'expansion'. In its various meanings it is employed by a number of natural and social sciences, from genetics to linguistics. As for psychology, apart from A.V. Zaporozhets the term was used by C.G. Jung who developed the technique of amplification as part of his method of interpretation of the human mind constructs — first of all, dreams. A.V. Zaporozhets understood amplification as the '*enrichment*' of child development, the '*broadening*' of the child's genetic perspective, that is, of the zone of proximal and more distant development through the specific 'child activities'. Currently, the principle of amplification lies at the core of the Federal State Educational Standards of preschool education (2014).

The opposite of amplification then, in Zaporozhets' opinion, is *simplification*: the reduction of the content and forms of child development, which reveals itself, for example, in forced speed or artificial acceleration. Hence the (highly relevant nowadays) Zaporozhets' criticism of early education. This criticism may well be extended onto the modern educational trend of pursuing academic success at school. In both cases we deal with the "simple way of solving complex problems", much too harmful as for human science, as for various practices of supporting human development.

So why does A.V. Zaporozhets, L.S. Vygotsky's disciple and a prominent contributor of activity approach, insist on 'amplification' if the very introduction of the child into the human world, social and cultural, implies by definition not only the expansion and enrichment, but also the emergence of a *specific* potential of development? Throughout the education process the child — out of necessity and not because of "certain methodological restrictions" — acquires models, 'chips', 'samples' of human activity which are of local historical character and are available to the adult community of this very epoch and culture for pedagogical adaptation. As we keep saying, the adult talks to the child on behalf of the culture, or, more precisely, on behalf of the culture of his/her epoch. And it is only natural. Still, by means of these specific historical activity models the child manages to acquire the whole human way of living. More often that not, this happens quite spontaneously. There's good reason A.V. Zaporozhets related the idea of amplification with the concept of '*spontaneity*' of development which represents the cultural form just as much as the organised acquisition of activity models.

Here we are dealing with something that A.G. Asmolov called the redundancy of development[2]. N.N. Poddyakov, an outstanding child psychologist, points out to a curious phenomenon of mother-child interaction: when talking to their small children, all mothers typically use phrases that are quite complex in their meaning and which cannot yet be fully understood by the child; however, as the time passes, the child learns to understand parts of the phrases

[1] E.g. see: *Zaporozhets A.V.* Nauchnaya kontseptsiya issledovanii NII doshkolnogo vospitaniya APN SSSR [The scientific concept of research of the Institute of Prechool Education of the Academy of Pedagogical Sciences of the USSR]. Psikholog v detskom sadu [Psychologist in kindergarden], 2000, no. 2–3, pp. 5–23.

[2] *Asmolov A.G.* Optika prosveshcheniya. Sociokulturnye perspektivy [Optics of enlightenment: socio-cultural perspectives]. Moscow: Prosveshchenie, 2012.

until, finally, he is able to understand them all[3]. Let's imagine, just for a second, that mothers would only use simple, easy-to-understand language when communicating to the child! Needless to say, this would have resulted in the child's serious mental deficiency. Similarly, Penelope Leach, a British psychologist, recommends parents to increase the "level of complexity" in their communication with babies by showing picture books, naming surrounding objects and even describing the receipt of the meals while feeding[4]. All this creates the entire *social situation of development* within which — and only within which — the child's activity can develop.

It is worth mentioning that the means of amplification suggested by N.N. Poddyakov and P. Leach can be considered appropriate and effective only while the child is not capable of identifying and focusing on the content-related aspects of knowledge, that is, in early childhood. At preschool age this may (although not necessarily) lead to a somewhat opposite effect: simplification of child development by means of "cognitive overload". As the philosopher G.S. Batishchev puts it, activity involves both liminal and supraliminal content in which the sources of development are rooted. What to dismiss as excessive and what to preserve and maintain in any activity — that is truly the hardest change for every researcher and practitioner.

A.V. Zaporozhets' motives for introducing the concept of amplification were also connected with the obvious need for an *age-specific approach* to the study and promotion of *activity development* in ontogenesis (A.N. Leontiev, V.V. Davydov). Zaporozhets argues for a full realisation of child activities over the certain age period. However, activities are subject to historical changes (see modern discussions as to whether play has vanished from childhood or rather gained new forms), and the 21st century has already seen the emergence of several new types of activity which affect social and psychological profiles (for instance, activity on social media). Today, all these factors represent a challenge to the activity-based approach to development.

The concept of 'amplification' helps to reveal how historical limitations in human development can be eliminated in the ontogenetic perspective. It seemed to us that this concept may well be extended beyond preschool age, onto other ages, and that was the idea behind this topical issue. Our authors have created a diverse picture of the forms of development amplification (not only by educational means), from infancy to old age.

Sadly, while we were working on this issue, we suffered a great loss: Zhanna Markovna Glozman, a renowned neuropsychologist, passed away on March 4, 2022. Zhanna Markovna and her co-author, V.A. Naumova, contributed a life-asserting article on optimal ageing to this very issue, and we hoped that Zhanna Markovna would see her manuscript published. Now we would like to dedicate the whole issue to the memory of Z.M. Glozman, a wonderful scientist and person, a true advocate of psychological support to all people, young and old.

V.T. Kudryavtsev

---

[3] *Poddyakov N.N.* Myshlenie doshkolnika [Thinking in preschooler]. Moscow: Pedagogika, 1977. P. 17.
[4] *Leach P.* Your baby and child. Moscow: Pedagogika, 1985.

«Подсказка взглядом» как ключ к механизмам совместного внимания: основные результаты исследований

Т.М. Шевель
Национальный исследовательский университет «Высшая школа экономики» (ФГБОУ ВО «НИУ ВШЭ»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-3763-4547, e-mail: tanechkash18@yandex.ru

М.В. Фаликман
Национальный исследовательский университет «Высшая школа экономики» (ФГБОУ ВО «НИУ ВШЭ»), г. Москва, Российская Федерация
Институт общественных наук РАНХиГС, Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-1192-1433, e-mail: maria.falikman@gmail.com

В статье представлен теоретический обзор исследований совместного внимания с использованием методики подсказки взглядом. Совместное внимание рассматривается как совокупность способностей обнаружить объект внимания другого человека и содействовать обнаружению им объекта своего внимания. Затрагиваются вопросы эволюции совместного внимания в контексте развития человеческой коммуникации, рассматриваются этапы его развития в онтогенезе. Подробно рассматриваются предполагаемые механизмы совместного внимания и обсуждаются результаты экспериментов, направленных на выявление этих механизмов. Обсуждается соотношение вклада геометрии глаз и контекста, в который включен взгляд подсказывающего (его индивидуальных особенностей, ситуации подсказки и т. д.), в эффект подсказки взглядом при решении задач обнаружения целевого объекта в поле зрения. Выделяются основные расхождения в результатах экспериментов и их возможные причины, обозначаются перспективные области дальнейших исследований. Анализируются возможности рассмотрения совместного внимания через призму культурно-исторического подхода.

Ключевые слова: совместное внимание, пространственная подсказка, подсказка взглядом, социализация, атрибуция ментальных состояний.

Gaze cueing as a key to joint attention mechanisms: Essential research findings

Tatiana M. Shevel
The National Research University Higher School of Economics, Moscow, Russia
ORCID: https://orcid.org/0000-0002-3763-4547, e-mail: tanechkash18@yandex.ru

Maria V. Falikman
The National Research University Higher School of Economics, Moscow, Russia
Research Fellow, Institute for Social Sciences, RANEPA, Moscow, Russia
ORCID: https://orcid.org/0000-0002-1192-1433, e-mail: maria.falikman@gmail.com

The paper provides a theoretical overview of research on joint attention using the gaze cueing paradigm. Joint attention is considered as a set of abilities to detect the object of another person's attention and to facilitate identification of the object of one's own attention for the others. The evolution of joint attention in the context of human communication development and the stages of its ontogeny are outlined. The hypothetic mechanisms of joint attention are examined in detail and the results of experiments aimed at identifying these mechanisms are discussed. The relative contribution of the geometry of human eyes, on the one hand, and the context of the gaze cueing (gaze owner identity, cueing situation, etc.), on the other, to the cueing effect on detecting a target in the visual field is demonstrated. The main inconsistencies in the results of experiments and their possible sources are highlighted, and promising areas for further research are indicated. The possibilities of research in joint attention through the prism of the cultural-historical approach are analyzed.

Keywords: joint attention, spatial cueing, gaze cueing, socialization, mental state attribution.

Введение

В ходе общения и взаимодействия люди координируют свое внимание, направляя его на одни и те же объекты. Взгляд собеседника используется в качестве источника информации, поясняющего ход его мыслей. Способность сонаправить внимание, включающая, с одной стороны, способность локализовать объект внимания другого человека, а с другой — способность привлечь его внимание к тому или иному объекту в поле зрения или за его пределами, называется совместным вниманием. Оно появляется в раннем детстве и играет ключевую роль в развитии человека, в его взаимодействии с окружающими.

Психологи активно изучают механизмы совместного внимания. Как часто человек наблюдает за направлением взгляда собеседника и находит объект его внимания в окружающем пространстве? Каковы могут быть последствия в плане как когнитивного, так и социально-эмоционального развития, если этот механизм не будет сформирован у ребенка? Ответы на эти вопросы необходимы для выстраивания стратегий помощи людям с нарушениями совместного внимания с целью повышения эффективности коммуникации, обучения и решения практических задач.

Совместное внимание и его развитие

Совместное внимание — это внимание, разделенное между двумя людьми. Оно может быть зрительным, слуховым или жестикуляционным, но в данном обзоре мы рассмотрим зрительное совместное внимание.

Согласно определению Дж. Баттеруорта, зрительное совместное внимание — «умение смотреть туда, куда смотрит кто-то еще» [17, с. 223], перевести взгляд на объект внимания другого человека. Это важно, так как человек может не замечать значимых элементов окружающей среды, а воспользовавшись взглядом другого человека, он обращает внимание на

игнорируемые им ранее объекты. Такой процесс взаимодействия необходим для развития социальных навыков (сотрудничества, общения) [58], а также для понимания состояний и намерений окружающих [42]. Более того, совместное внимание — важный фактор в речевом развитии. Взрослый смотрит на объект и называет его, а ребенок, в свою очередь, соотносит объект и его наименование [12; 16; 53]. При этом уровень развития совместного внимания (успешность следования взгляду взрослого) у ребенка 6 месяцев коррелирует с его словарным запасом в 18 месяцев [39], а совместное внимание в 20 месяцев коррелирует с его умственными способностями в 3,5 года [21].

В 1970-х гг. Дж. Брунер и М. Скейф показали, что совместное внимание совершенствуется в течение первого года жизни (увеличивается процент детей, переместивших взор в сторону объекта, на который смотрит взрослый), а к году 100% типично развивающихся детей способны перевести взгляд на объект внимания взрослого [48]. Исследования, изучающие совместное внимание в онтогенезе, проводились также Дж. Баттеруортом с коллегами [например: 18]. В экспериментах принимали участие дети в возрасте от 6 до 18 месяцев и их матери. Мать и ребенок сидели друг напротив друга, при этом мать должна была сначала установить зрительный контакт с ребенком (смотреть ему в глаза), а затем перевести взгляд на один из целевых объектов, расположенных в разных местах лабораторного помещения. Оценивалось, отыскал ли ребенок взглядом объект внимания его матери.

На основании проведенных экспериментов Баттеруорт выделил три стадии развития механизма совместного внимания. Первая стадия — «экологическая». Уже в 6 месяцев ребенок умеет улавливать взгляд и понимать направление взора значимого взрослого, но еще не может определить точное местоположение объекта, на который смотрит мать. Если по линии взора матери встречается какой-либо объект, расположенный перед целевым объектом, то ребенок шести месяцев останавливает свой взгляд на

нем. Механизм совместного внимания на данной стадии получил название «экологический», так как сама среда способствует тому или иному ответу ребенка на взгляд взрослого.

Механизм, развивающийся во время второй, «геометрической», стадии является как бы «надстройкой» над предшествующим механизмом. В 9—12 месяцев ребенок может определить не только направление взгляда взрослого, но и точное местоположение объекта, на который смотрит мать, при условии, что объект находится в поле зрения ребенка (объекты, расположенные перед целевым, не будут мешать верной интерпретации взгляда). На «геометрической» стадии ребенок как бы достраивает линию взгляда матери до объекта и «вычисляет» необходимый угол своего взора, что способствует верному обнаружению объекта, на который направлен ее взгляд.

Способность обнаружить объект внимания взрослого вне своего поля зрения (например, за спиной) появляется только на третьей, «репрезентационной», стадии. В 18 месяцев ребенок может повернуться с целью обнаружения стимула (т. е. способен выстроить образ целостного пространства, или его психическую репрезентацию). При этом полуторагодовалый ребенок верно определяет целевой объект вне поля зрения только в том случае, если в поле зрения нет других объектов [18]. В обратной же ситуации он расценивает взгляд матери как направленный на один из объектов, находящихся в поле его зрения. Тем не менее, Баттеруорт отметил, что одновременный и сонаправленный поворот глаз и головы матери повышает эффективность интерпретации ее взгляда даже во втором случае.

Итак, для ребенка очень важно уметь «пользоваться» взглядом другого человека, понимать, куда он смотрит. Именно эта способность позволяет младенцу эффективнее ориентироваться в пространстве, определять, где может находиться что-либо потенциально интересное или опасное, а также активно изучать окружающую среду, в том числе социальную, следуя взгляду взрослого.

Накопленные к настоящему времени данные о совместном внимании и его нарушениях [например: 32] позволяют утверждать, что совместное внимание играет ключевую роль в психическом развитии и социализации ребенка. По сути, это можно рассматривать как конкретное подтверждение идей культурно-исторической психологии Л.С. Выготского о том, что в основе развития лежат психические функции, разделенные между ребенком и взрослым. «Совместное внимание» — пример именно такой разделенной функции, в дальнейшем определяющей объекты внимания самого ребенка и вооружающей его психологическими орудиями или инструментами для управления собственным вниманием и вниманием другого человека.

Строя программу исследований внимания как высшей психической функции, Л.С. Выготский запланировал серию экспериментов [1], в которой в качестве такого психологического орудия выступил указательный жест — один из распространенных инструментов совместного внимания. В этих экспери-

ментах дети младшего и старшего дошкольного возраста должны были угадать местоположение ореха, который экспериментатор помещал в одну из двух одинаковых чашек, закрытых крышками. На крышки были наклеены малозаметные прямоугольники серого цвета, при этом ореху всегда соответствовал более темный прямоугольник. Дети не обращали на них внимания, и их проигрыши и выигрыши были случайными. Тогда экспериментатор на глазах у ребенка клал орех в чашку, накрывал крышкой и указывал на прямоугольник. Дети младшего возраста после этой манипуляции не начинали решать задачу лучше, но более старшие дети (в возрасте около 5 лет) быстро схватывали закономерность и начинали постоянно выигрывать. Тем самым средство решения задачи — структурные отношения между прямоугольниками, один из которых в эксперименте выступал в качестве объекта совместного внимания ребенка и взрослого — становилось собственным психологическим орудием ребенка, обеспечивающим избирательность внимания и успешность решения задачи.

М. Томаселло, развивая взгляды Выготского, подчеркивает, что в основе совместного внимания лежит восприятие другого человека как «интенционального агента», имеющего собственные намерения [53]. Именно когда ребенок начинает воспринимать других как «интенциональных агентов», он понимает, что другие могут избирательно обращать внимание на определенные аспекты среды. Совместное внимание является важной составляющей социального познания, так как именно благодаря ему мы понимаем желания и намерения других людей и можем «пользоваться» их направлением внимания, разделять и изменять его. Сформированная способность к совместному вниманию знаменует переход от натуральных к высшим психическим функциям, ведь именно совместное внимание является основой для совместной деятельности ребенка и взрослого [8].

Исследование механизмов совместного внимания

Центральный вопрос, который возникает в связи со зрительным совместным вниманием и его развитием — это вопрос о конкретных механизмах, которые стоят за локализацией объекта внимания другого человека. С одной стороны, и у детей, и у взрослых сонаправление взгляда обычно кажется непроизвольным, что обусловливает, в частности, успешность фокусников [51]. С другой стороны, акт совместного внимания как функции, разделенной между людьми, выступает как высшая психическая функция, социальная по происхождению; при этом направление внимания каждого из участников взаимодействия опосредовано направлением внимания другого. Очевидно, что отправной точкой в развитии совместного внимания является чувствительность к направлению внимания другого человека (reacting to joint attention, RJA). Над ней надстраивается способность побудить другого к сонаправлению внимания

(initiating joint attention, IJA), в которой присутствует мотивационный компонент [подробнее см.: 7] и выделяются два последовательных этапа развития, связанных со смещением интереса ребенка с самого объекта совместного внимания к взаимодействию со взрослым [14].

Но насколько базовый механизм совместного внимания является «геометрическим», как полагал Дж. Баттеруорт, по сути заложив основу моделирования совместного внимания у роботов [41], и насколько он испытывает влияние со стороны текущих задач субъекта и того контекста, в котором разворачивается взаимодействие?

С одной стороны, в совместном внимании важную роль играет контрастность и геометрия глаз: благодаря контрасту маленькой темной радужной оболочки и белой склеры мы очень быстро можем определить направление взгляда другого [44; 38]. Причем эта контрастность и соотношение размеров радужной оболочки и склеры, вероятно, имеет эволюционные основы. Человек — единственный биологический вид с белой склерой и контрастной радужкой. Однако, согласно недавним исследованиям, у человекообразных обезьян, в частности у горилл (70%), уже появляется депигментация склеры (ближе к белому), у небольшого процента (7%) горилл склера достигает такой же степени депигментации, как у человека [37]. При этом такая депигментация наблюдается у всех здоровых людей. Таким образом, появление белой склеры, контрастирующей с радужной оболочкой, можно считать эволюционно выигрышным признаком, способствующим коммуникации и впоследствии становящимся основой для механизма совместного внимания, что нашло отражение в «гипотезе кооперативного глаза» М. Томаселло с коллегами [56].

С другой стороны, механизм совместного внимания — основа способности разделять общую информацию, общие цели при выполнении совместных задач, а также понимать намерения и желания другого [54], следовательно, их трактовка также может стать определяющей при локализации объекта внимания другого человека.

В качестве компромиссной позиции было предложено различать «восходящее» и «нисходящее» совместное внимание [3]. В «восходящем» механизме совместного внимания на локализацию объекта внимания другого человека влияет направление взгляда, положение тела и расположение визуально ярких объектов, в то время как в «нисходящем» механизме ключевую роль играет информация о событиях, которые произошли с человеком, вне зависимости от визуальной яркости объектов в поле зрения. Это различение перекликается с представлениями М. Томаселло о «низкуровневой» и «высокоуровневой» моделях мониторинга направления взора, где под «низкоуровневой» моделью имеется в виду тенденция смотреть в направлении, в котором смотрят другие, а под «высокоуровневой» — понимание, что другие туда смотрят не просто так, а нечто видят — иными словами, наличие определенного психического переживания [55]. М.В. Зотов и коллеги показали,

что для интерпретации объекта внимания другого человека в условиях высокой нагруженности сцены необходимо понимание контекста ситуации: испытуемые верно определяли объект внимания другого, если знали контекст коммуникативной ситуации, вне зависимости от доступности информации о направлении взгляда [4]. Таким образом, у совместного внимания предположительно может быть как рефлекторный, так и нисходящий, уже не автоматический механизм.

Методика подсказки взглядом

В качестве лабораторной модели совместного внимания с конца 1990-х гг. используется так называемая «методика подсказки взглядом» (gaze cueing). Это адаптированная методика пространственной подсказки [43], при которой в качестве подсказывающего стимула используется направление взгляда человека (например, изображенного на фотографии) или схематическое изображение человеческих глаз, указывающих в направлении объекта внимания [15; 30; 34].

Классическая методика подсказки М. Познера позволяет оценить успешность решения задачи обнаружения зрительного стимула на периферии поля зрения после верной или неверной подсказки [43]. Целевой стимул — это объект (например, геометрическая фигура), который предъявляется справа или слева от центра поля зрения (на расстоянии 6—7 градусов от точки фиксации). При этом до появления стимула на экране появляется подсказка, которая указывает в одно из этих двух мест. Подсказка может быть верной, т. е. указывающей туда, где появится стимул; неверной, указывающей в противоположном направлении; и нейтральной, не дающей никакой информации о возможном местоположении стимула. По характеру и месту предъявления подсказка может быть центральной (например, стрелка в центре экрана) либо периферической (например, подсветка будущего местоположения стимула на экране). Задача наблюдателя — как можно быстрее ответить, с какой стороны появился целевой стимул, фиксируя при этом взгляд в центре экрана. Возможна также более экологичная задача — как можно быстрее перевести взгляд на целевой стимул [например: 57; 52]; в этом случае используется регистрация движений глаз наблюдателя. Сравнивается время реакции при верной, неверной и нейтральной подсказках.

В исследованиях с использованием методики подсказки различают два вида внимания на основе способа его перенаправления: эндогенное (целенаправленное) и экзогенное (управляемое внешними воздействиями) [52]. Центральную подсказку-стрелку связывают с эндогенным вниманием, так как наблюдателю нужно проинтерпретировать знак и произвольно перенаправить внимание туда, куда он указывает. Периферическую же подсказку связывают с экзогенным вниманием, так как внимание в таком случае привлекается внешним стимулом и перенаправляется непроизвольно.

Центральная подсказка отличается тем, что дает и «выигрыш» при правильной подсказке и «проигрыш» при неправильной во времени реакции по сравнению с нейтральным условием и работает при длительных межстимульных интервалах (400 мс). Предположительно за ней стоит последовательное перенаправление внимания от одного местоположения к другому. Такая подсказка оказывается действенной, когда она информативна, т. е. является верной чаще, чем неверной [43]. Периферическая же подсказка связывается с параллельным механизмом внимания [33]: она дает только «выигрыш» при правильной подсказке без «проигрыша» при неправильной и работает при коротких межстимульных интервалах (150 мс) вне зависимости от информативности подсказки [33]; иными словами, усиливается обработка той части поля зрения, куда указывает подсказка, но обработка второго участка останется неизменной, такой же, как в отсутствие подсказки [43].

В исследованиях с использованием модификации методики Познера в варианте подсказки взглядом используется центральное предъявление подсказки, но место стрелки занимает изображение человеческих глаз, смотрящих в соответствующем направлении, или повернутого к наблюдателю лица (схематического рисунка либо фотографии) со взглядом, обращенным вправо или влево [26]. В остальном схема эксперимента сохраняется: наблюдатель должен как можно быстрее локализовать целевой объект, в то время как подсказка может быть верной, неверной и нейтральной. В качестве измеряемого показателя могут выступать также время реакции на появление целевого стимула и скорость перевода взора к месту его предъявления.

Результаты исследований подсказки взглядом

В целом, исследования указывают на то, что воспринимаемое направление взгляда автоматически изменяет направление внимания человека [26] и в этом плане сродни не центральной, а периферической подсказке. Так, даже если подсказка взглядом не предсказывает будущего местоположения стимула, т. е. верна лишь в половине случаев, эффект подсказки возникает: при верной подсказке время реакции меньше, чем при нейтральной. При этом время реакции при неверной подсказке оказывается равным времени реакции при нейтральной подсказке — иными словами, такая подсказка дает «выигрыш» во времени реакции, когда она верна, без «проигрыша», когда она неверна (в отличие от центральной подсказки-стрелки, которая дает как выигрыш, так и проигрыш). Также стоит отметить, что данный эффект появляется при коротких межстимульных интервалах, начиная от 100 мс, и полностью исчезает при интервале свыше 1 с [26].

Кроме того, Фризен и коллеги [28] показали, что, даже если подсказка взглядом верна только в 20% проб (и об этом сообщают наблюдателям), то эффект будет все еще выражен при межстимульном интерва-

ле, равном 300 мс, но станет обратным (меньшее время реакции на неверную подсказку) при межстимульном интервале, равном 1200 мс. Интересно, что при межстимульном интервале в 600 мс время реакции одинаково для верной и неверной подсказки: в обоих случаях оно значимо меньше времени реакции в нейтральном условии. То есть при меньшем межстимульном интервале, вероятно, работает автоматический процесс перенаправления внимания в соответствии с направлением взора другого человека, при 1200 мс — сознательный и произвольный, связанный с ожиданиями испытуемого, а при 600 мс могут иметь место оба процесса: внимание сдвигается либо непроизвольно в соответствии с направлением взгляда-подсказки, либо в соответствии с ожиданиями наблюдателя, который предвосхищает появление целевого стимула там, где он предъявляется чаще [28].

Важно отметить, что эффект подсказки взглядом работает даже в случае, если наблюдателю одновременно предъявляются целевой и отвлекающий стимулы. В другом исследовании Фризена и коллег целевым стимулом была определенная фигура (например, квадрат), а отвлекающим — любая другая фигура. Обе фигуры появлялись с двух сторон от изображения глаз, благодаря чему устранялся возможный «эффект выскакивания», который мог бы влиять на результаты предыдущих исследований, где появлялся только один стимул, который и являлся целевым [27]. Наконец, если при несовпадении цвета подсказки — изображения глаз и цвета стимула — эффект подсказки наблюдается, то при несовпадении цвета подсказки-стрелки и стимула эффект пропадает, что указывает на автоматический характер подсказки взглядом [47].

Таким образом, подсказка взглядом является, вероятнее всего, механизмом, связанным с параллельной обработкой информации в поле зрения и с экзогенным (рефлекторным) сдвигом внимания. При этом подсказка работает рефлекторно при небольших промежутках времени между подсказкой и появляющимся стимулом, но может работать произвольно — при увеличении этих временных промежутков [24; 28].

Эту возможность подкрепляют недавние данные, демонстрирующие, что эффект подсказки взглядом сохраняется, даже когда подсказывающий не переводит взгляд, но наблюдатель предвосхищает, в какую сторону посмотрит подсказывающий. Например, К. Джойс и коллеги исследовали «подсказку взглядом» в контексте ожиданий наблюдателя [34]. У испытуемых посредством многократных повторений формировалось некоторое знание о том, на какой тип объектов чаще смотрит изображенное лицо. В результате определение того, на какой из объектов смотрит человек, происходило быстрее в тех случаях, когда объект внимания воспринимался как предпочтительный для него, даже если направление его взгляда не менялось и он смотрел прямо перед собой. Иными словами, подсказка взглядом работала в соответствии со сформированным знанием о привлекательности или непривлекательности потенциальных целевых объектов для подсказывающего.

Многократно показано, что механизм совместного внимания менее эффективно работает у людей с расстройствами аутистического спектра (РАС), которые сопровождаются нарушением социальных и коммуникативных навыков [13; см. также: 27]. Это связано с тем, что люди с РАС избегают прямого зрительного контакта и имеют сложности при использовании так называемых «социальных подсказок». Нарушение способности к совместному вниманию в раннем детстве является одним из первых признаков РАС и может являться их критерием [20; 32]. Дети с РАС, в отличие от типично развивающихся детей, не переводят автоматически взгляд на объект внимания другого человека, что может вызывать задержки в раннем речевом развитии. Некоторые авторы, впрочем, полагают, что специфическим механизмом совместного внимания стоит скорее считать его инициирование (IJA), которое, в отличие от чувствительности к направлению внимания другого человека (RJA), чаще подразумевает социальную мотивацию [40; 23]. При высокофункциональном аутизме с возрастом может сформироваться способность реагировать на направление внимания другого, в то время как способность инициировать совместное внимание останется нарушенной [см. 32]. Таким образом, даже если ребенок с РАС научится «реагировать на совместное внимание», сам механизм в большинстве случаев остается не до конца сформированным и требует специальных интервенционных занятий [7].

Результаты экспериментов с использованием методики подсказки показывают, что у детей с РАС эффект подсказки взглядом идентичен эффекту центральной подсказки-стрелки [49; см. также: 11], а не периферической подсказки. Кроме того, для них не характерно автоматическое переключение внимания при предъявлении подсказок взглядом, которые только в половине случаев верно указывают на будущее местоположение стимула, т. е. время реакции при верных подсказках равно времени реакции при неверных [46]. Все это говорит о том, что при предъявлении изображения глаз механизмы переключения внимания у детей с РАС и у типично развивающихся детей различаются: у детей с РАС имеет место скорее не социальный, а более общий механизм [11].

Геометрия глаза и контекст в возникновении эффекта подсказки взглядом

Рассмотренные выше исследования ставят вопрос о соотношении вклада в эффект подсказки взглядом двух факторов: контрастности радужной оболочки глаза и склеры, с одной стороны, и опыта наблюдателя и контекста зрительной сцены — с другой. Очевидно, что быстрая интерпретация направления взгляда другого человека обусловлена контрастностью глаза. Показано, что при инвертированном контрасте изображения глаза (когда склера изображена черной, а радужка — белой) нарушается восприятие направления взгляда [44; 38].

Таким образом, интерпретируя направления взгляда, мы руководствуемся направлением более темной его части. Тем не менее, при изображении глаз только с «заливкой» радужной оболочки (белой или черной) и контуром глаза эффект будет иметь место даже при белых радужных оболочках [47]. В исследовании Ш. Андо также показана роль контраста радужки и склеры в интерпретации направления взгляда другого: при затемнении левой или правой части склеры без изменения положения радужки направление взгляда воспринимается по более темной части склеры [10]. Там же была показана роль геометрической структуры самого глаза (маленькая радужка — большая склера): контурного изображения глаз (без затемненной радужной оболочки) достаточно для верного определения направления взгляда [10; см. также: 29].

Однако поскольку механизм подсказки взглядом играет важную роль в социализации и обеспечивает эффективность коммуникации, он должен испытывать влияние социальных факторов, связанных с взаимодействием между людьми и «моделью психического» — представлением о том, что в настоящий момент думает и чувствует другой человек.

Для экспериментального выявления этого влияния подсказку взглядом помещают в различные контексты. Это могут быть схематичные изображения лиц, при предъявлении которых возникает стандартный эффект подсказки взглядом [26]; лица с разной расовой принадлежностью, где расовая принадлежность влияет на выраженность эффекта подсказки взглядом: скорость саккад при неверной подсказке оказывается выше при предъявлении лиц собственной расы наблюдателя в отличие от предъявления лиц другой расы [5]; лица разного возраста, предъявляемые испытуемым разных возрастов: длительность фиксаций на лице увеличивается при изображении человека того же возраста, в отличие от изображения человека другого возраста, в то время как время фиксации на объекте внимания не отличается [25]; с разными эмоциональными состояниями: эффект подсказки взглядом усиливается при предъявлении лиц, выражающих эмоции страха, удивления и злости по сравнению с нейтральными и счастливыми лицами [36].

Согласно результатам исследований, одним из наиболее фундаментальных факторов является атрибуция ментальных состояний, т. е. представление о том, что подсказывающий в принципе является субъектом, обладающим психикой и определенными намерениями. Это закономерно в свете представлений об эволюции кооперации и коммуникации, которые мы упоминали выше в связи с именем М. Томаселло. Например, в исследовании Визе и коллег [59] изучался эффект подсказки взглядом, в котором варьировался инициатор этой подсказки: это мог быть робот или человек. Кроме того, в инструкции испытуемым говорили о том, кто «ответственен» за перевод взора. В случае предъявления робота, например, сообщалось, что роботом управляет человек или что робот, напротив, автономен. В случае же предъ-

явления человеческого лица в инструкции могло сообщаться, что это либо искусственный объект — манекен, либо человек. Было показано, что эффект подсказки взглядом сильнее в случае более вероятного приписывания ментальных состояний и намерений вне зависимости от того, кто (или что) давал подсказку взглядом. То есть в случае информации о роботе, которым управляет человек, эффект подсказки был выражен ярче, чем в случае информации о манекене [59]. Кроме того, в исследовании Петровой, Луняковой и Фаликман было показано, что тип намерения («оценивание» или «помощь») влияет на силу эффекта [5]. Также установлено, что взгляд человека, которому приписывается девиантное поведение и которого наблюдатель считает потенциально опасным для себя и окружающих, управляет вниманием наблюдателя эффективнее взгляда человека, действующего в соответствии с социальными нормами — объект внимания опасного человека локализуется быстрее [19].

Таким образом, приписывание намерений тому, кто дает подсказку, а также особенности этих намерений влияют на силу эффекта подсказки взглядом. Кроме того, на этот эффект влияют индивидуальные особенности наблюдателя. Так, например, оказывается важным пол наблюдателя: эффект сильнее выражен у женщин [27]. Это связывают со склонностью к эмпатии, в большей степени выраженной именно у женщин [9]. Наконец, в недавнем исследовании, где использовалась не классическая методика подсказки взглядом, а направление взгляда подсказывающего обозначалось красной точкой, имитирующей показания регистрации движений глаз партнера, было показано, что на параметры эффекта подсказки влияет более высокий или более низкий социальный статус партнера относительно наблюдателя [31].

Тем не менее, атрибуции определенных свойств, намерений или ментальных состояний подсказывающему недостаточно для того, чтобы вызвать эффект подсказки. В исследовании Кингстоуна и коллег наблюдателям предъявлялось видео, в котором реальный человек поворачивал голову либо в сторону целевого объекта, либо в противоположную сторону. На лицо человека была надета полноразмерная маска, при этом такая же маска была надета на заднюю часть головы. В результате при повороте головы были видны обе маски, но реальное лицо человека было только под одной из них. Несмотря на то, что после предъявления проб наблюдатели верно оценивали, под какой из масок находится лицо человека, эффекта подсказки при таком предъявлении не возникало: время реакции при верной и неверной подсказке было одинаковым [35]. И напротив, если наблюдатель видит, что целевой объект скрыт от подсказывающего непрозрачной перегородкой, эффект подсказки взглядом все равно наблюдается [22]. Таким образом, результаты исследований говорят о том, что за эффектом подсказки взглядом может стоять как экзогенный, так и эндогенный, произвольно управляемый механизм.

Вместе с тем именно здесь результаты исследований подсказки взглядом наиболее противоречивы. Так, Ристик и Кингстоун изучали эффект подсказки взглядом, интегрировав изображение глаз в изображение машины (колеса машины в виде глаз) [45]. Одно и то же изображение интерпретировалось в инструкции либо как глаза под шляпой, либо как машина. Результаты исследования подтвердили важность интерпретации изображения: при полученной испытуемыми информации о глазах под шляпой прослеживалось уменьшение реакции при верной подсказке по сравнению с неверной, в то время как при информации о машине такого эффекта вообще не обнаружилось. Сходный результат получили Такахаши и Ватанабе (2013): в их исследовании восприятие неодушевленных объектов как лиц напрямую влияло на наличие эффекта подсказки взглядом: после проведения эксперимента с использованием методики подсказки с центральными объектами, вызывающими парейдолии (были выбраны объекты, которые могли быть похожи на лица, например электрическая розетка), испытуемые отчитывались о том, как они проинтерпретировали объект. Те, кто воспринимал объекты как лица, демонстрировали устойчивый эффект подсказки взглядом. У остальных же испытуемых такого эффекта не наблюдалось [50].

Заключение

Обобщая рассмотренные выше исследования, можно сказать, что на эффект подсказки взглядом могут влиять знания о том, кто или что дает эту подсказку, а также информация о намерениях подсказывающего агента и общее представление о ситуации, в которой дается подсказка. Тем не менее, на эффект подсказки взглядом также оказывает определяющее влияние контрастность радужной оболочки и склеры глаза, что может быть первичным по отношению к социальному контексту. Не исключено, что продуктивным может оказаться рассмотрение становления совместного внимания через призму культурно-исторического подхода, который позволяет различить механизм, которым наблюдатель может только пользоваться, автоматически реагируя на подсказку, и механизм, который наблюдатель может произвольно адаптировать в соответствии со своей трактовкой контекста и накопленным опытом, позволяющим предвосхищать дальнейшее развитие событий. Иными словами, если один из этих механизмов обладает чертами натуральной функции (хотя и являющейся продуктом переплетения линий биологической и культурной эволюции), то второй — особенностями высшей [2], выстраивающейся на основе натуральной. Кроме того, до сих пор не проведено прямое экспериментальное сопоставление относительного вклада факторов геометрии глаза и контекста подсказки взглядом в ее эффект, что может стать предметом дальнейших экспериментальных исследований.

Литература

1. *Выготский Л.С.* Избранные психологические исследования: Мышление и речь. Проблемы психологического развития ребенка. М.: АПН РСФСР. 1956.

2. *Выготский Л.С.* История развития высших психических функций. Собр. соч. в 6 т. Т. 3. М.: Педагогика, 1983.

3. *Зотов М.В., Андрианова Н.Е., Войт А.П.* «Нисходящее» и «восходящее» совместное внимание в невербальной коммуникации // Российский журнал когнитивной науки. 2015. Том 2. № 1. С. 6—23.

4. *Зотов М.В., Андрианова Н.Е., Войт А.П.* Роль полиперспективных репрезентаций в процессах совместного внимания // Культурно-историческая психология. 2015. Том 11. № 2. С. 16—27. DOI:10.17759/chp.2015110202

5. *Меньшикова Г.Я., Лунякова Е.Г., Ковалев А.И.* Влияние расовой принадлежности лица на выраженность эффекта взгляда-подсказки: метод айтрекинга // Национальный психологический журнал. 2017. Том 2. № 26. DOI:10.11621/npj.2017.0206

6. *Петрова А.О., Лунякова Е.Г., Фаликман М.В.* Эффект взгляда-подсказки в виртуальной среде: влияние социальной установки и социальной дистанции // Психология. Журнал Высшей школы экономики. 2021. Том 18. № 1. С. 211—223. DOI:10.17323/1813-8918-2021-1-211-223

7. *Фаликман М.В.* Совместное внимание: роль в речевом и социальном развитии ребенка и возможности интервенции при РАС // От рождения до взрослости / Под ред. А.Л. Битовой. М.: Теревинф. 2019. С. 55—58.

8. *Холмогорова А.Б.* Роль идей Л.С. Выготского для становления парадигмы социального познания в современной психологии: обзор зарубежных исследований и обсуждение перспектив // Культурно-историческая психология. 2015. Том 11. №. 3. С. 25—43. DOI:10.17759/chp.2015110304

9. *Alwall N., Johansson D., Hansen S.* The gender difference in gaze-cueing: Associations with empathizing and systemizing // Personality and Individual Differences. 2010. Vol. 49. № 7. P. 729—732. DOI:10.1016/j.paid.2010.06.016

10. *Ando S.* Luminance-induced shift in the apparent direction of gaze // Perception. 2002. Vol. 31. № 6. P. 657—674. DOI:10.1068/p3332

11. *de Araújo M.F., de Castro W.A., Nishimaru H., Urakawa S., Ono T., Nishijo H.* Performance in a gaze-cueing task is associated with autistic traits // AIMS neuroscience. 2021. Vol. 8. № 1. P. 148. DOI:10.3934/Neuroscience.2021007

12. *Baldwin D.* Understanding the link between joint attention and language // Joint attention: Its origins and role in development. 1995. P. 131—158.

13. *Baron-Cohen S.* Theory of mind and autism: A fifteen year review // Understanding other minds: Perspectives from developmental cognitive neuroscience. 2000. Vol. 2 № 3—20. P. 102.

14. *Bates E., Benigni L., Bretherton I., Camaioni L., Volterra V.* Emergence of Symbols Cognition and Communication in Infancy. N.Y.: Academic Press, 1979.

15. *Bayliss A.P., Tipper S.P.* Gaze cues evoke both spatial and object-centered shifts of attention // Perception & Psychophysics. 2006. Vol. 68. № 2. P. 310—318. DOI:10.3758/BF03193678

16. *Bruner J.* Child's talk: Learning to use language. New York: Norton, 1983.

References

1. Vygotskii L.S. Izbrannye psikhologicheskie issledovaniya: Myshlenie i rech'. Problemy psikhologicheskogo razvitiya rebenka [Selected Psychological Research: Thinking and Speaking. Problems of the psychological development of the child]. Moscow: APN RSFSR, 1956. (In Russ.).

2. Vygotskii L.S. Istoriya razvitiya vysshikh psikhicheskikh funktsii. Sobr.soch. v 6 tomakh, [The history of the development of higher mental functions. Col.wor. in 6 volumes], 1983, Vol. 3. Moscow: Pedagogika. (In Russ.).

3. Zotov M.V., Andrianova N.E., Vojt A.P. "Niskhodyashchee" i "voskhodyashchee" sovmestnoe vnimanie v neverbal'noi kommunikatsii [Top-down and bottom-up joint attention in nonverbal communication]. *Rossiiskii zhurnal kognitivnoi nauki* [*Russian Journal of Cognitive Science*], 2015. Vol. 2, no. 1, pp. 6—23. (In Russ.).

4. Zotov M.V., Andrianova N.E., Vojt A.P. Rol' poliperspektivnykh reprezentatsii v protsessakh sovmestnogo vnimaniya [The Role of Multiperspective Representations in Joint Attention Processes]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2015. Vol. 11, no. 2, pp. 16—27. DOI: 10.17759/chp.2015110202 (In Russ.).

5. Men'shikova G.Ya., Lunyakova E.G., Kovalev A.I. Vliyanie rasovoi prinadlezhnosti litsa na vyrazhennost' effekta vzglyada-podskazki: metod aitrekinga [The influence of the race of a person on the severity of the gaze-hint effect: the eye-tracking method]. *Natsional'nyi psikhologicheskii zhurnal* [*National psychological journal*], 2017. Vol 2, no. 26. DOI:10.11621/npj.2017.0206 (In Russ.).

6. Petrova A.O., Lunyakova E.G., Falikman, M.V. Effekt vzglyada-podskazki v virtual'noi srede: vliyanie sotsial'noi ustanovki i sotsial'noi distantsii [The effect of a glance-hint in a virtual environment: the influence of social attitude and social distance]. *Psikhologiya. Zhurnal Vysshei shkoly ekonomiki* [*Psychology. Journal of the Higher School of Economics*], 2021. Vol. 18, no. 1, pp. 211—223. DOI:10.17323/1813-8918-2021-1-211-223 (In Russ.).

7. Falikman M.V. Sovmestnoe vnimanie: rol' v rechevom i sotsial'nom razvitii rebenka i vozmozhnosti interventsii pri RAS [Joint attention: the role in speech and social development of the child and the possibilities of intervention in ASD]. *Ot rozhdeniya do vzroslosti* [*From birth to adulthood*]. Moscow: Terevinf, 2019, pp. 55—58. (In Russ.).

8. Holmogorova A.B. Rol' idei L.S. Vygotskogo dlya stanovleniya paradigmy sotsial'nogo poznaniya v sovremennoi psikhologii: obzor zarubezhnykh issledovanii i obsuzhdenie perspektiv [The role of L.S. Vygotsky for the formation of the paradigm of social cognition in modern psychology: a review of foreign research and discussion of prospects]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2015. Vol. 11, no. 3, pp. 25—43. DOI:10.17759/chp.2015110304 (In Russ).

9. Alwall N., Johansson D., Hansen S. The gender difference in gaze-cueing: Associations with empathizing and systemizing. *Personality and Individual Differences*, 2010. Vol. 49, no. 7, pp. 729—732. DOI:10.1016/j.paid.2010.06.016

10. Ando S. Luminance-induced shift in the apparent direction of gaze. *Perception*, 2002. Vol. 31, no. 6, pp. 657—674. DOI:10.1068/p3332

11. de Araújo M.F., de Castro W.A., Nishimaru H., Urakawa S., Ono T., Nishijo H. Performance in a gaze-cueing task is associated with autistic traits. *AIMS neuroscience*, 2021. Vol. 8, no. 1, 148 p. DOI:10.3934/Neuroscience.2021007

12. Baldwin D. Understanding the link between joint attention and language. *Joint attention: Its origins and role in development*, 1995, pp. 131—158.

17. *Butterworth G.* The ontogeny and phylogeny of joint visual attention // Natural theories of mind: Evolution, development and simulation of everyday mindreading / A. Whiten (Ed.). Oxford, UK : B. Blackwell, 1991. P. 223—232.

18. *Butterworth G., Jarrett N.* What minds have in common is space: Spatial mechanisms serving joint visual attention in infancy // British Journal of Developmental Psychology. 1991. Vol. 9. № 1. P. 55—72. DOI:10.1111/j.2044-835X.1991. tb00862.x

19. *Carraro L., Dalmaso M., Castelli L.* The appeal of the devil's eye: social evaluation affects social attention // Cognitive Processing. 2017. Vol. 18. № 1. P. 97—103. DOI:10.1007/s10339-016-0785-2

20. *Charman T.* Why is joint attention a pivotal skill in autism? // Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences. 2003. Vol. 358. № 1430. P. 315—324. DOI:10.1098/rstb.2002.1199

21. *Charman T., Baron-Cohen S., Swettenham J., Baird G., Cox A., Drew A.* Testing joint attention, imitation, and play as infancy precursors to language and theory of mind // Cognitive development. 2000. Vol. 15. № 4. P. 481—498. DOI:10.1016/ S0885-2014(01)00037-5

22. *Cole G.G., Smith D.T., Atkinson M.A.* Mental state attribution and the gaze cueing effect // Attention, Perception, & Psychophysics. 2015. Vol. 77. № 4. P. 1105—1115. DOI:10.3758/s13414-014-0780-6

23. *Corkum V., Moore C.* The origins of joint visual attention in infants // Developmental psychology. 1998. Vol. 34. № 1. P. 28. DOI:10.1037/0012-1649.34.1.28

24. *Driver J., Davis G., Ricciardelli P., Kidd P., Maxwell E., Baron-Cohen S.* Gaze perception triggers visuospatial orienting by adults in a reflexive manner // Visual Cognition. 1999. Vol. 6. № 5. P. 509—540.

25. *Freebody S, Kuhn G.* Own-age biases in adults' and children's joint attention: Biased face prioritization, but not gaze following! // Quarterly Journal of Experimental Psychology (Hove). 2018. Vol. 71. № 2. P. 372—379. DOI:10. 1080/17470218.2016.1247899

26. *Friesen C.K., Kingstone A.* The eyes have it! Reflexive orienting is triggered by nonpredictive gaze // Psychonomic Bulletin & Review. 1998. Vol. 5. № 3. P. 490—495. DOI:10.3758/BF03208827

27. *Friesen C.K., Moore C., Kingstone A.* Does gaze direction really trigger a reflexive shift of spatial attention? // Brain and Cognition. 2005. Vol. 57. № 1. P. 66—69. DOI:10.1016/j. bandc.2004.08.025

28. *Friesen C.K., Ristic J., Kingstone A.* Attentional effects of counterpredictive gaze and arrow cues // Journal of Experimental Psychology: Human Perception and Performance. 2004. Vol. 30. № 2. 319 p. DOI:10.1037/0096-1523.30.2.319

29. *Frischen A., Bayliss A.P., Tipper S.P.* Gaze cueing of attention: visual attention, social cognition, and individual differences // Psychological Bulletin. 2007. Vol. 133. № 4. P. 694. DOI:10.1037/0033-2909.133.4.694

30. *Frischen A., Tipper S.P.* Orienting attention via observed gaze shift evokes longer term inhibitory effects: implications for social interactions, attention, and memory // Journal of Experimental Psychology: General. 2004. Vol. 133. № 4. P. 516. DOI:10.1037/0096-3445.133.4.516

31. *Gobel M.S., Giesbrecht B.* Social information rapidly prioritizes overt but not covert attention in a joint spatial cueing task // Acta Psychologica. 2002. Vol. 211.P. 103188.

32. *Jones E.A., Carr E.G.* Joint attention in children with autism: Theory and intervention // Focus on Autism and Other Developmental Disabilities. 2004. Vol. 19. № 1. P. 13—26. DOI:10.1177/10883576040190010301

13. Baron-Cohen S. Theory of mind and autism: A fifteen year review. *Understanding other minds: Perspectives from developmental cognitive neuroscience*, 2000. Vol. 2, no. 3—20, 102 p.

14. Bates E., Benigni L., Bretherton I., Camaioni L., Volterra V. Emergence of Symbols Cognition and Communication in Infancy. N.Y.: Academic Press, 1979.

15. Bayliss A.P., Tipper S.P. Gaze cues evoke both spatial and object-centered shifts of attention. *Perception & Psychophysics*, 2006. Vol. 68, no. 2, pp. 310—318. DOI:10.3758/ BF03193678

16. Bruner J. Child's talk: Learning to use language. New York: Norton, 1983.

17. Butterworth G. The ontogeny and phylogeny of joint visual attention. In A. Whiten (Ed.). *Natural theories of mind: Evolution, development and simulation of everyday mindreading*, 1991, pp. 223—232.

18. Butterworth G., Jarrett N. What minds have in common is space: Spatial mechanisms serving joint visual attention in infancy. *British Journal of Developmental Psychology*, 1991. Vol. 9, no 1, pp. 55—72. DOI:10.1111/j.2044-835X.1991.tb00862.x

19. Carraro L., Dalmaso M., Castelli L. The appeal of the devil's eye: social evaluation affects social attention. *Cognitive Processing*, 2017. Vol. 18, no. 1, pp. 97—103. DOI:10.1007/ s10339-016-0785-2

20. Charman T. Why is joint attention a pivotal skill in autism? *Philosophical Transactions of the Royal Society of London*. Series B: Biological Sciences, 2003. Vol. 358, no. 1430, pp. 315—324. DOI:10.1098/rstb.2002.1199

21. Charman T., Baron-Cohen S., Swettenham J., Baird G., Cox A., Drew A. Testing joint attention, imitation, and play as infancy precursors to language and theory of mind. *Cognitive development*, 2000. Vol. 15, no. 4, pp. 481—498. DOI:10.1016/ S0885-2014(01)00037-5

22. Cole G.G., Smith D.T., Atkinson M.A. Mental state attribution and the gaze cueing effect. *Attention, Perception, & Psychophysics*, 2015. Vol. 77, no. 4, pp. 1105—1115. DOI:10.3758/s13414-014-0780-6

23. Corkum V., Moore C. The origins of joint visual attention in infants. *Developmental psychology*, 1998. Vol. 34, no. 1, 28 p. DOI:10.1037/0012-1649.34.1.28

24. Driver J., Davis G., Ricciardelli P., Kidd P., Maxwell E., Baron-Cohen S. Gaze perception triggers visuospatial orienting by adults in a reflexive manner. *Visual Cognition*, 1999. Vol. 6, no. 5, pp. 509—540.

25. Freebody S, Kuhn G. Own-age biases in adults' and children's joint attention: Biased face prioritization, but not gaze following! *Quarterly Journal of Experimental Psychology (Hove)*, 2018. Vol. 71, no. 2, pp. 372—379. DOI:10.1080/1747 0218.2016.1247899

26. Friesen C.K., Kingstone A. The eyes have it! Reflexive orienting is triggered by nonpredictive gaze. *Psychonomic Bulletin & Review*, 1998. Vol. 5, no. 3, pp. 490—495. DOI:10.3758/BF03208827

27. Friesen C.K., Moore C., Kingstone A. Does gaze direction really trigger a reflexive shift of spatial attention? *Brain and Cognition*, 2005. Vol. 57, no. 1, pp. 66—69. DOI:10.1016/j.bandc.2004.08.025

28. Friesen C.K., Ristic J., Kingstone A. Attentional effects of counterpredictive gaze and arrow cues. *Journal of Experimental Psychology: Human Perception and Performance*, 2004. Vol. 30, no. 2, 319 p. DOI:10.1037/0096-1523.30.2.319

29. Frischen A., Bayliss A.P., Tipper S.P. Gaze cueing of attention: visual attention, social cognition, and individual differences. *Psychological Bulletin*, 2007. Vol. 133, no. 4, 694 p. DOI:10.1037/0033-2909.133.4.694

30. Frischen A., Tipper S.P. Orienting attention via observed gaze shift evokes longer term inhibitory effects: implications for social interactions, attention, and memory.

33. *Jonides J.* Voluntary versus automatic control over the mind's eye's movement // Attention and Performance. 1981. P. 187—203.

34. *Joyce K., Schenke K., Bayliss A., Bach P.* Looking ahead: Anticipatory cueing of attention to objects others will look at // Cognitive Neuroscience. 2016. Vol. 7. № 1—4. P. 74—81. DOI:10.1080/17588928.2015.1053443

35. *Kingstone A., Kachkovski G., Vasilyev D., Kuk M., Welsh T.N.* Mental attribution is not sufficient or necessary to trigger attentional orienting to gaze // Cognition. 2019. Vol. 189. P. 35—40. DOI:10.1016/j.cognition.2019.03.010

36. *Lassalle A., Itier R.J.* Fearful, surprised, happy, and angry facial expressions modulate gaze-oriented attention: Behavioral and ERP evidence // Social neuroscience. 2013. Vol. 8. № 6. P. 583—600. DOI:10.1080/17470919.2013.835750

37. *Mayhew J.A., Gómez J. C.* Gorillas with white sclera: A naturally occurring variation in a morphological trait linked to social cognitive functions // American Journal of Primatology. 2015. Vol. 77. № 8. P. 869—877. DOI:10.1002/ajp.22411

38. *Michel C., Pauen S., Hoehl S.* Schematic eye-gaze cues influence infants' object encoding dependent on their contrast polarity // Scientific Reports. 2017. Vol. 7. № 1. P. 1—8. DOI:10.1038/s41598-017-07445-9

39. *Morales M., Mundy P., Delgado C.E., Yale M., Neal R., Schwartz H. K.* Gaze following, temperament, and language development in 6-month-olds: A replication and extension // Infant Behavior and Development. 2000. Vol. 23. № 2. P. 231—236. DOI:10.1016/S0163-6383(01)00038-8

40. *Mundy P., Gomes A.* Individual differences in joint attention skill development in the second year // Infant behavior and development. 1998. Vol. 21. № 3. P. 469—482. DOI:10.1016/S0163-6383(98)90020-0

41. *Nagai Y., Hosoda K., Morita A., Asada M.* A constructive model for the development of joint attention // Connection Science. 2003. Vol. 15. № 4. P. 211—229. DOI:10.1080/0954 0090310001655101

42. *Nelson P.B., Adamson L.B., and Bakeman R.* Toddlers' joint engagement experience facilitates preschoolers' acquisition of theory of mind // Dev. Sci. 2008. Vol. 11. P. 47—852. DOI:10.1111/j.1467-7687.2008.00733.x

43. *Posner M.I., Nissen M.J., Ogden W.C.* Attended and unattended processing modes: The role of set for spatial location // Modes of perceiving and processing information. 1978. Vol. 137. № 158. P. 137—157.

44. *Ricciardelli P., Baylis G., Driver J.* The positive and negative of human expertise in gaze perception // Cognition. 2000. Vol. 77. № 1. P. B1—B14. DOI:10.1016/S0010-0277(00)00092-5

45. *Ristic J., Kingstone, A.* Taking control of reflexive social attention // Cognition. 2005. Vol. 94. № 3. P. B55—B65. DOI:10.1016/j.cognition.2004.04.005

46. *Ristic J., Mottron L., Friesen C.K., Iarocci G., Burack J.A., Kingstone A.* Eyes are special but not for everyone: The case of autism // Cognitive Brain Research. 2005. Vol. 24. № 3. P. 715—718. DOI:10.1016/j.cogbrainres.2005.02.007

47. *Ristic J., Wright A., Kingstone A.* Attentional control and reflexive orienting to gaze and arrow cues // Psychonomic Bulletin & Review. 2007. Vol. 14. № 5. P. 964—969. DOI:10.3758/BF03194129

48. *Scaife M., Bruner J.S.* The capacity for joint visual attention in the infant // Nature. 1975. Vol. 253. № 5489. P. 265—266.

49. *Senju A., Tojo Y., Dairoku H., Hasegawa T.* Reflexive orienting in response to eye gaze and an arrow in children with and without autism // Journal of Child Psychology and Psychiatry. 2004. Vol. 45. № 3. P. 445—458. DOI:10.1111/j.1469-7610.2004.00236.x

Journal of Experimental Psychology: General, 2004. Vol. 133, no. 4, 516 p. DOI:10.1037/0096-3445.133.4.516

31. Gobel M. S., Giesbrecht B. Social information rapidly prioritizes overt but not covert attention in a joint spatial cueing task. *Acta Psychologica*, 2002. Vol. 211, 103188 p.

32. Jones E.A., Carr E.G. Joint attention in children with autism: Theory and intervention. *Focus on Autism and Other Developmental Disabilities*, 2004. Vol. 19, no. 1, pp. 13—26. DOI:10.1177/10883576040190010301

33. Jonides J. Voluntary versus automatic control over the mind's eye's movement. *Attention and Performance*, 1981, pp. 187—203.

34. Joyce K., Schenke K., Bayliss A., Bach P. Looking ahead: Anticipatory cueing of attention to objects others will look at. *Cognitive Neuroscience,* 2016. Vol. 7, no. 1—4, pp. 74—81. DOI:10.1080/17588928.2015.1053443

35. Kingstone A., Kachkovski G., Vasilyev D., Kuk M., Welsh T.N. Mental attribution is not sufficient or necessary to trigger attentional orienting to gaze. *Cognition,* 2019. Vol. 189, pp. 35—40. DOI:10.1016/j.cognition.2019.03.010

36. Lassalle A., Itier R.J. Fearful, surprised, happy, and angry facial expressions modulate gaze-oriented attention: Behavioral and ERP evidence. *Social neuroscience*, 2013. Vol. 8, no. 6, pp. 583—600. DOI:10.1080/17470919.2013.835750

37. Mayhew J.A., G mez J.C. Gorillas with white sclera: A naturally occurring variation in a morphological trait linked to social cognitive functions. *American Journal of Primatology,* 2015. Vol. 77, no. 8, pp. 869—877. DOI:10.1002/ajp.22411

38. Michel C., Pauen S., Hoehl S. Schematic eye-gaze cues influence infants' object encoding dependent on their contrast polarity. *Scientific Reports*, 2017. Vol. 7, no. 1, pp. 1—8. DOI:10.1038/s41598-017-07445-9

39. Morales M., Mundy P., Delgado C.E., Yale M., Neal R., Schwartz H.K. Gaze following, temperament, and language development in 6-month-olds: A replication and extension. *Infant Behavior and Development*, 2000. Vol. 23, no. 2, pp. 231—236. DOI:10.1016/S0163-6383(01)00038-8

40. Mundy P., Gomes A. Individual differences in joint attention skill development in the second year. *Infant behavior and development*, 1998. Vol. 21, no. 3, pp. 469—482. DOI:10.1016/S0163-6383(98)90020-0

41. Nagai Y., Hosoda K., Morita A., Asada M. A constructive model for the development of joint attention. *Connection Science*, 2003. Vol. 15, no. 4, pp. 211—229. DOI:10.1080/095 40090310001655101

42. Nelson P.B., Adamson L.B., and Bakeman R. Toddlers' joint engagement experience facilitates preschoolers' acquisition of theory of mind. *Dev. Sci*, 2008. Vol. 11, pp. 847—852. DOI:10.1111/j.1467-7687.2008.00733.x

43. Posner M.I., Nissen M.J., Ogden W.C. Attended and unattended processing modes: The role of set for spatial location. *Modes of perceiving and processing information*, 1978. Vol. 137, no. 158, pp. 137—157.

44. Ricciardelli P., Baylis G., Driver J. The positive and negative of human expertise in gaze perception. *Cognition*, 2000. Vol. 77, no. 1, pp. B1—B14. DOI:10.1016/S0010-0277(00)00092-5

45. Ristic J., Kingstone, A. Taking control of reflexive social attention. *Cognition*, 2005. Vol. 94, no. 3, pp. B55—B65. DOI:10.1016/j.cognition.2004.04.005

46. Ristic J., Mottron L., Friesen C.K., Iarocci G., Burack J.A., Kingstone A. Eyes are special but not for everyone: The case of autism. *Cognitive Brain Research*, 2005. Vol. 24, no. 3, pp. 715—718. DOI:10.1016/j.cogbrainres.2005.02.007

47. Ristic J., Wright A., Kingstone A. Attentional control and reflexive orienting to gaze and arrow cues. *Psychonomic Bulletin & Review*, 2007. Vol. 14, no. 5, pp. 964—969. DOI:10.3758/BF03194129

50. *Takahashi K., Watanabe K.* Gaze cueing by pareidolia faces // i-Perception. 2013. Vol. 4. № 8. P. 490—492. DOI:10.1068/i0617sas

51. *Tatler B.W., Kuhn G.* Don't look now: The magic of misdirection // Eye movements: A window on mind and brain. 2007. P. 697—714. Elsevier. DOI:10.1016/B978-008044980-7/50035-5

52. *Theeuwes J.* Exogenous and endogenous control of attention: The effect of visual onsets and offsets // Perception & Psychophysics. 1991. Vol. 49. № 1. P. 83—90. DOI:10.3758/BF03211619

53. *Tomasello M.* Joint attention as social cognition. In C. Moore & P.J. Dunham (Eds.) // Joint attention: Its origins and role in development. 1995. P. 103—130.

54. *Tomasello M., Carpenter M., Call J., Behne T., Moll H.* Understanding and sharing intentions: The origins of cultural cognition // Behavioral and Brain Sciences. 2005. Vol. 28. № 5. P. 675—691. DOI:10.1017/S0140525X05000129

55. *Tomasello M., Hare B., Agnetta B.* Chimpanzees, Pan troglodytes, follow gaze direction geometrically // Animal Behaviour. 1998. Vol. 58. P. 769—777. DOI:10.1006/anbe.1999.1192

56. *Tomasello M., Hare B., Lehmann H., Call J.* Reliance on head versus eyes in the gaze following of great apes and human infants: the cooperative eye hypothesis // Journal of Human Evolution. 2007. Vol. 52. P. 314—320. DOI:10.1016/j.jhevol.2006.10.001

57. *Van der Stigchel S., Theeuwes J.* The relationship between covert and overt attention in endogenous cuing // Perception & Psychophysics. 2007. Vol. 69. № 5. P. 719—731. DOI:10.3758/BF03193774

58. *Vaughan Van Hecke A., Mundy P., Acra C., Block J.J., Delgado C.E.F., Parlade M., Meyer J., and Pomares Y.B.* Infant joint attention, temperament, and social competence in preschool children // Child Development. 2007. Vol. 78. P. 53—69. DOI:10.1111/j.1467-8624.2007.00985.x

59. *Wiese E., Wykowska A., Zwickel J., Müller H.J.* I see what you mean: How attentional selection is shaped by ascribing intentions to others // PloS one. 2012. Vol. 7. № 9. P. e45391. DOI:10.1371/journal.pone.0045391

48. Scaife M., Bruner J. S. The capacity for joint visual attention in the infant. *Nature*, 1975. Vol. 253, no. 5489, pp. 265—266.

49. Senju A., Tojo Y., Dairoku H., Hasegawa T. Reflexive orienting in response to eye gaze and an arrow in children with and without autism. *Journal of Child Psychology and Psychiatry*, 2004. Vol. 45, no. 3, pp. 445—458. DOI:10.1111/j.1469-7610.2004.00236.x

50. Takahashi K., Watanabe K. Gaze cueing by pareidolia faces. *i-Perception*, 2013. Vol. 4, no. 8, pp. 490—492. DOI:10.1068/i0617sas

51. Tatler B.W., Kuhn G. Don't look now: The magic of misdirection. *Eye movements: A window on mind and brain*, 2007, pp. 697—714. Elsevier. DOI:10.1016/B978-008044980-7/50035-5

52. Theeuwes J. Exogenous and endogenous control of attention: The effect of visual onsets and offsets. *Perception & Psychophysics*, 1991. Vol. 49, no. 1, pp. 83—90. DOI:10.3758/BF03211619

53. Tomasello M. Joint attention as social cognition. In C. Moore & P.J. Dunham (Eds.). *Joint attention: Its origins and role in development*, 1995. pp. 103—130.

54. Tomasello M., Carpenter M., Call J., Behne T., Moll H. Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences*, 2005. Vol. 28, no. 5, pp. 675—691. DOI:10.1017/S0140525X05000129

55. Tomasello M., Hare B., Agnetta B. Chimpanzees, Pan troglodytes, follow gaze direction geometrically. *Animal Behaviour*, 1998. Vol. 58, pp. 769—777. DOI:10.1006/anbe.1999.1192

56. Tomasello M., Hare B., Lehmann H., Call J. Reliance on head versus eyes in the gaze following of great apes and human infants: the cooperative eye hypothesis. *Journal of Human Evolution*, 2007. Vol. 52, pp. 314—320. DOI:10.1016/j.jhevol.2006.10.001

57. Van der Stigchel S., Theeuwes J. The relationship between covert and overt attention in endogenous cuing. *Perception & Psychophysics*, 2007. Vol. 69, no. 5, pp. 719—731. DOI:10.3758/BF03193774.

58. Vaughan Van Hecke A., Mundy P., Acra C., Block J.J., Delgado C.E.F., Parlade M., Meyer J., and Pomares Y.B. Infant joint attention, temperament, and social competence in preschool children. *Child Development*. 2007. Vol. 78, pp. 53—69. DOI:10.1111/j.1467-8624.2007.00985.x

59. Wiese E., Wykowska A., Zwickel J., Müller H.J. I see what you mean: How attentional selection is shaped by ascribing intentions to others. *PloS one*, 2012. Vol. 7, no. 9, pp. e45391. DOI:10.1371/journal.pone.0045391

Информация об авторах

Шевель Татьяна Максимовна, стажер-исследователь научно-учебной лаборатории когнитивных исследований, Национальный исследовательский университет «Высшая школа экономики» (ФГБОУ ВО «НИУ ВШЭ»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-3763-4547, e-mail: tmshevel@edu.hse.ru

Фаликман Мария Вячеславовна, доктор психологических наук, профессор департамента психологии, Национальный исследовательский университет «Высшая школа экономики» (ФГБОУ ВО «НИУ ВШЭ»), г. Москва, Российская Федерация; научный сотрудник, Институт общественных наук РАНХиГС, г. Москва, Российская Федерация, https://orcid.org/ ORCID: 0000-0002-1192-1433, e-mail: maria.falikman@gmail.com

Information about the authors

Tatiana M. Shevel, Research Assistant in Laboratory for Cognitive Research, the National Research University Higher School of Economics, Moscow, Russia, ORCID: https://orcid.org/0000-0002-3763-4547, e-mail: tanechkash18@yandex.ru

Maria V. Falikman, Ph.D. in Psychology, Professor, Head of the School of Psychology, the National Research University Higher School of Economics, Moscow, Russia; Research Fellow, Institute for Social Sciences, RANEPA, Moscow, Russia, ORCID: https://orcid.org/0000-0002-1192-1433, e-mail: maria.falikman@gmail.com

The Scale of Early Childhood Communication Signals: Evaluation of Child-Parent Interaction

Tatyana V. Shinina
Moscow State University of Psychology & Education, Moscow, Russia
ORCID: https://orcid.org/0000-0001-5572-9104, e-mail: shininatv78@gmail.com

Olga V. Mitina
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-2237-4404, e-mail: omitina@inbox.ru

The research is aimed at developing a scale for evaluating the communication signals of an early-age child, which can help to assess the predictors of the development of behavioral, cognitive, and socio-emotional skills in a child. This system of fixing the child's communication signals is based on the periodization of the ontogeny of communication between M. Lisina and her followers (E. Smirnova, D. Godovikova, S. Meshcheryakova, etc.), which allows us to consider specific forms of communication between a child and an adult in the new social situation of modern children's development. The materials of an empirical study conducted on a sample of dyads of mothers and young children are presented. The study (N=55) involved dyads of mothers and children aged 2,4 to 3,3 years (M=2,9; SD=0,40), of which 62% were girls. The study included a video recording of a mother's playtime interaction with a child for 15 minutes. The resulting video clips were analyzed and encoded using the "Observer-XT 14" program. To evaluate video protocols, experts used the evaluation of the child-parent interaction method "Evaluation of child-parent interaction" [ECPI-2 ed.], the scale of "Child communication signals". The method of main components was used for processing expert assessments, which allowed us to distinguish three factors of children's indicators ["Exploratory activity"; "Personal autonomy"; "Emotional alienation"]. Based on the results, we can talk about the stability of indicators-factors that characterize the child's communication signals. Based on the array of experimental data [49,500 seconds of video tape], a model has been developed for analyzing dynamic changes occurring in the process of child-parent interaction. All factors are stable over time: autocorrelation dynamic series are characterized by high values of correlation coefficients. It is noted that the formation of personal autonomy when interacting with a significant adult and the emotional alienation of a child from an adult can ambivalently influence the child's research activity.

Keywords: assessment scale, observation method, independence, personal autonomy, early age, video analysis, behavior, Observer-XT.

Шкала коммуникативных сигналов ребенка раннего возраста: оценка детско-родительского взаимодействия

Т.В. Шинина
Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0001-5572-9104, e-mail: shininatv78@gmail.com

О.В. Митина
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-2237-4404, e-mail: omitina@inbox.ru

Исследование направлено на разработку шкалы оценки коммуникативных сигналов ребенка раннего возраста, с помощью которой возможно оценить предикторы развития поведенческих, когнитивных и социально-эмоциональных навыков у ребенка. Данная система фиксации коммуникативных сигналов ребенка опирается на периодизацию онтогенеза общения М. Лисиной и последователей (Е. Смирновой, Д. Годовиковой, С. Мещеряковой и др.), которая позволяет рассмотреть специфические формы общения ребенка со взрослым в условиях новой социальной ситуации развития современных детей. Представлены материалы эмпирического исследования, проведенного на выборке из диад матерей и детей раннего возраста. В исследовании (N=55) приняли участие диады матерей и детей в возрасте от 2,4 до 3,3 лет (M=2,9; SD=0,40), из которых 62% были девочки. Исследование включало в себя видеозапись игрового взаимодействия мамы с ребенком в течение 15 минут. Полученные видеопротоколы были проанализированы и закодированы с помощью программы «Observer-XT 14». Для оценки видеопротоколов экспертами использовалась методика оценки детско-родительского взаимодействия «Evaluation of child-parent interaction» [ECPI-2 ред.], шкала «Коммуникативных сигналов ребенка». Для обработки экспертных оценок использовался метод главных компонент, позволивший выделить три фактора детских индикаторов («Исследовательская активность» — «Exploratory activity»; «Личностная автономия» — «Personal autonomy»; «Эмоциональная отчужденность» — «Emotional alienation»). На основании полученных результатов можно говорить об устойчивости показателей-факторов, характеризующих коммуникативные сигналы ребенка. С опорой на массив экспериментальных данных (49 500 секунд видеоленты) разработана модель для анализа динамических изменений, происходящих в процессе детско-родительского взаимодействия. Все факторы стабильны во времени: автокорреляционные динамические ряды характеризуются высокими значениями коэффициентов корреляций. Отмечается, что формирование личностной автономии при взаимодействии со значимым взрослым и эмоциональная отчужденность ребенка от взрослого могут амбивалентно влиять на исследовательскую активность ребенка.

Ключевые слова: шкала оценки, метод наблюдения, самостоятельность, личностная автономия, ранний возраст, видеоанализ, поведение, Observer-XT.

Introduction

Rapid changes in modern society, high intensity of the information stream, the shift in communication with its transfer to online media — all these has a considerable influence on the mental development and formation of a child's personality. That leads to a gap between the generations of parents and children as well as to lower

importance of an adult figure and his or her role in the parent-child interaction. This social situation of development demands scientific reconsideration and finding new ways of assessment of the parent-child interaction of "the changing child in the changing world" [12].

Nowadays we can see a surge of interest of foreign researchers in studying interaction by means of videos and observation scales. The state-of-the-art review allows us to see both advantages and disadvantages of the methods of assessment of the early parent-child interaction [13]. The assessment of the parent-child relationship NCAST (Nursing Child Assessment Satellite Training) studies the ability to give clear and precise signals to an adult and the ability to demonstrate a reaction to the words or actions of the adult [16]. The scale Manchester Assessment of Caregiver-Infant (MACI) marks the child's behavior according to three parameters: child's attention towards the adult, child's positive affect, child's liveliness [14]. The evaluation of the psychological interaction of the child and adult in the process of feeding as well as of structured and non-structured play, the Parent-Child Early Relational Assessment (PCERA) [17], includes 28 characteristics of a child's behavior.

Speaking of the Russian psychology, the approach designed in M.I. Lisina's scientific school of ontogenesis of communication is considered being one of the most elaborated and thorough [9; 10]. M.I. Lisina considers communication as the process of interaction where every subject becomes an object of cognition and gets the opportunity to better understanding his or her needs as well as to cognizing and evaluating oneself. Thus, communication between the child and the adult becomes the basis of personality development in ontogenesis.

The aim of our research is an assessment of communicative signals of a child of an early age in the process of the spontaneous game for designing a scale of assessment and defining the dynamics of the intensity of the signal towards the significant adult.

The Methodological Basis of the Research

In our research, we are guided by M.I. Lisina's thesis postulating that the most important characteristic is the activity of a person, his or her subjective attitude reflected in the communication process via initiative towards the communication partner and in return reactions to his or her actions. Thus, the quality of interaction, so important at an early age, depends on how the partners act in turn and how they perceive the actions of each other in the communication process. "If, when listening to you, a child looks at your face smiling in response to your affectionate words, fastens his or her gaze upon your face — you can be sure that communication is

in progress; but suddenly, attracted by the noise in the next room, the child turns away or bends the head while watching a beetle in the grass — and communication process pauses: it is interrupted by the exploratory activity of the child" [10, p. 22]. The given citation illustrates the quality of interaction depending on its manifestations in the mutual and independent activity.

Based on the principles of the activity approach and sharing the views of her teacher A.V. Zaporozhetz regarding communicative activity, M.I. Lisina supposes that "...the communication motives should be fulfilled (be made tangible) in those traits of a person or other persons for cognition and evaluation of which the individual starts interaction with somebody" [9, p.13]. She marks out the following group of qualities: (1) cognitive qualities: the adult is a source of information about the objective world and organizes new impressions for the child; (2) liveliness qualities: the significant adult is a partner in the mutual activity and relays how to act correctly; (3) personality traits: the adult shows his or her emotional experience in the interaction process.

As for the new formations which effect personality development of a child, M.I. Lisina marks out the attitude of the child to the objective world, to other people, and to him- or herself. Personality development of the child is shown especially brightly during the critical periods in the mutual influence of those lines. At the same time, the shift to the new stage of the interaction of the significant adult with the child of an early age occurs.

Considering communication as a special kind of activity, it is necessary to define the main structural components, to mark its object and main inducing needs and motives as well as to characterize the actions and operations. V.V. Davydov indicates structural components of the communicative activity as the actions and means of communication [6]. A communication action is a unit of communicative activity, i.e., the whole act addressed to another person and aimed at him or her as at its object. Two main categories of communication actions are the initial acts and the return actions. The means of communication are those operations by means of which the communication actions are performed.

This methodological base predetermines designing the scale of communicative signals of a child which allows fixing the manifestations of the child in the process of communicative activity with the significant adult.

Research Methods

The assessment of the communicative signals of a child has been performed by the technique Evaluation

of Child-Parent Interaction (ECPI-2) [4; 5]. The dyads of mothers and children (N=55) in the age from 2,4 to 3,3 years (M=2,9; SD=0,40) have been taken part in the research; 62% of the children are female. The procedure includes the following instruction for the parent: "Play with your child the way you usually do at home". 15 minutes of the parent-child interaction have been documented by means of video recording, which allows analyzing the video case and marking micro-actions of the child afterward. That gives the opportunity to discern the signals of the child in the process of interaction also it influences the evidence-based approach in the process of analysis of the obtained results and design recommendations for the parents and specialists taking part in the early interventions in the development of a child of the early age.

We have managed to get the whole picture of the child's behavior while communicating with the parent due to the software the Observer XT-14, providing visualization of the frequency and length of each indicator of the communicative signals of the child and registration of the medium and general indicators of duration as well as quantitative characteristics of each indicator. The evaluation protocol of indicators of the communicative signals of the child includes: (a) designing the coding scheme; (b) statistical analysis; (c) rating analysis of validity carried out by several observers in the same project; (d) data input. Ethic consents of the parents have been obtained. The analysis of the video records has been carried out by two behavioral analytics after having special training and reaching the indexes of concordance of expert marks at 87%-level of results correspondence in the independent analysis [3].

Designing the Scale of the Communicative Signals of a Child

We have been guided by two main lines of the behavior of a child of the early age conditioned by the age characteristics: communicative and objective activity. The former is aimed at communication with an adult and the latter — at studying an object.

While coding the communicative activity we have marked the initial acts and response actions towards the object and towards the adult expressed by communicative signals as the means of communication. For studying the communicative signals "child-object (O)" five indicators of evaluation of the independent activity of the child have been introduced. The communicative signals "child-adult" (A) have been studied by five indicators of evaluation of the child's signals aimed at interaction with the adult (Figure 1).

In the process of three-year video-research (2016—2019) a coding system allowing to fix an indicator in the process of video-case analysis considering the characteristics of that indicator [4; 5] has been designed. Each indicator has either a positive or negative value and that corresponds to the substantive characteristics (Table 1). For each indicator, a montage of demonstrations has been selected and that allowed to compile a video library. This is supposed to be a sufficient advantage and significant resource for training specialists working with children and parents, especially in the centers of early intervention.

Results

A dynamic model was developed to analyze the results. It allows you to draw conclusions and build re-
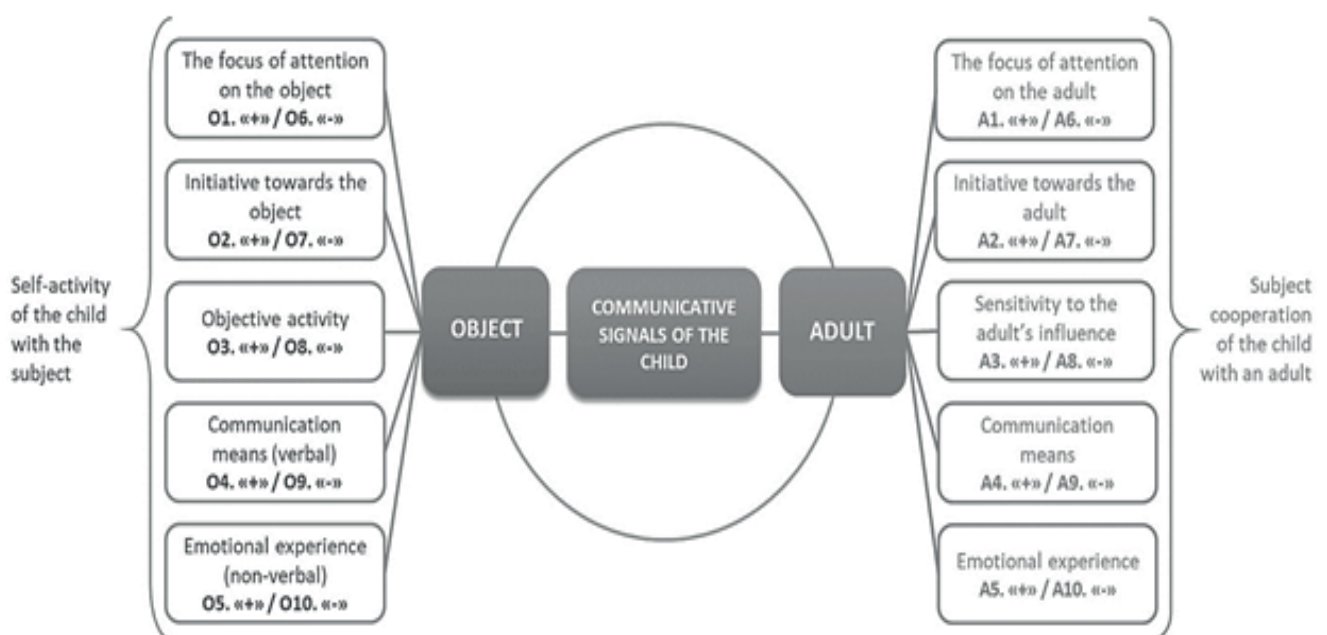
Fig. 1. The scale of evaluation of communicative signals of the child: substantive indicators

T a b l e   1

System of Coding Child — Object (CO)
The child sends communicative signals towards the object in the process of 15-minute play with the adult

Indicator	Characteristic	Indicator	Characteristic
O 1. The focus of attention on the object «+»	Concentration on the object	**O 6.** The focus of attention on the object «—»	Vacant look
O 2. Initiative towards the object «+»	Makes a choice of the object	**O 7.** Initiative towards the object «—»	Does not make a choice of an object
O 3. Objective activity «+»	The child explores an object him- or herself	**O 8.** Objective activity «—»	Stereotypic manipulations with the object
O 4. Communication means (verbal) «+»	Sends verbal signals towards the object	**O 9.** Communication means (verbal) «—»	Shows poor verbal reactions with negative shade
O 5. Emotional experience (non-verbal) «+»	Sends positive emotional non-verbal signals towards the object	**O 10.** Emotional experience (non-verbal) «—»	Shows negative emotional reactions

T a b l e   2

System of Coding Indicators Child — Adult (CA)
The child sends communicative signals towards the adult in the process of 15-minute play with the adult

Indicator	Characteristic	Indicator	Characteristic
A 1. The focus of attention on the adult «+»	Concentrates attention on the adult's eyes	**A 6.** The focus of attention on the adult «—»	Does not look at the adult
A 2. Initiative towards the adult «+»	Involves the adult into the activity	**A 7.** Initiative towards the adult «—»	Does not involve the adult in the activity
A 3. Sensitivity to the adult's influence «+»	Supports every adult's initiative	**A 8.** Sensitivity to the adult's influence «—»	Does not support adult initiatives
A 4. Communication means «+»	Sends verbal signals towards the adult	**A 9.** Communication means «—»	Demonstrates poor verbal reactions with the negative shade
A 5. Emotional experience «+»	Sends positive emotional non-verbal signals towards the adult	**A 10.** Emotional experience «—»	Shows negative emotional reactions while staying with the adult

search forecasts based on empirical data obtained as a result of measurement procedures. (Table 3).

For all sessions with a total duration of 15 minutes, a time series consisting of 1000 intervals of equal duration was constructed for each of the 20 indicators, and the presence (coded 1) or absence (coded 0) of a communicative signal from the child corresponding to this indicator was recorded on each of them. As a result, 20 dichotomous (of zeros and ones) time series with 1000 measurements were presented for analysis. Further, each time series (for each indicator) was divided into 4 equal periods and in each period the proportion of measurements (out of 250 that fell into this period) was determined, the result of which was one, i.e. there were behavioral manifestations of a communicative signal corresponding to this indicator. For each indicator and each

T a b l e   3

Average Percentage of Communicative Signals for each Indicator for each Time Period

Indicator	Positive indicators				Negative indicators			
Periods	1	2	3	4	1	2	3	4
O 1. Focus of attention on the object	**0,536***	**0,616**	**0,567**	0,257	**0,108**	**0,093**	**0,108**	0,053
O 2. Initiative towards the object	**0,161**	**0,194**	**0,183**	0,088	0,010	0,005	0,009	0,012
O 3. Objective activity	**0,356**	**0,394**	**0,371**	0,196	**0,031**	**0,037**	**0,035**	0,013
O 4. Communication means	**0,042**	**0,046**	**0,045**	0,026	0,000	0,000	0,001	0,000
O 5. Emotional experience	**0,031**	**0,034**	**0,025**	0,014	0,000	0,000	0,001	0,001
A 1. Focus of attention on the adult	0,054	0,045	0,048	0,037	0,088	0,063	0,056	0,036
A 2. Initiative towards the adult	**0,020**	0,015	**0,017**	0,009	0,002	0,002	0,000	0,000
A 3. Sensitivity towards the adult's influence	**0,264**	**0,273**	**0,257**	0,137	**0,067**	**0,066**	**0,064**	0,027
A 4. Communication means	0,127	0,117	0,137	0,073	0,012	0,019	0,016	0,009
A 5. Emotional experience	**0,078**	0,059	**0,082**	0,050	0,010	0,020	0,017	0,010

Note: *The values significantly exceeding corresponding values for another period are marked by the bold font*

of the four time periods, there was a certain proportion of presence averaged over all subjects corresponding to the indicator of a communicative signal. The results are presented in table 3. Bold font demonstrates indicators that significantly exceed the indicators for the same indicator calculated for a different period (marked with the usual font). In 11 of the 20 indicators, the least manifestation of communicative signals was found in the fourth (last) time period. Fatigue probably affects. No significant differences were found for 9 indicators, although a general tendency to decrease communication signals is present in all 20 indicators.

In order to test the possibility of enlarging the indicator system by combining them into more capacious categories, a data matrix was formed consisting of 55x4 rows (for each subject in each of the 4 periods) and 20 columns, each corresponded to its indicator. Using the principal component method, three factors were identified for indicators of the child's behavior.

Further, we are going to review the dynamics and characterize the indexes of the intensity of the factors.

The first factor is Exploratory Activity.

One can see that the indicators are either positive or negative (Table 4). The positive indicators characterize the child's independence in studying the object (objective activity +, attention focus on the object+, means of communication with the object +, initiative towards the object +, emotional reactions towards the object +), and the negative ones relate to the refusal of interaction (the focus of attention of the adult — , the focus of attention on the object —). Figure 2 shows that during the periods from 1 to 3, the index corresponding to the first factor has been attributed by the experts almost the same number of times. Thus, it is possible to speak about certain stability of those demonstrations in the playing activity during the first three-quarters of the session and in the end, fatigue of the child or the parent can probably take place.
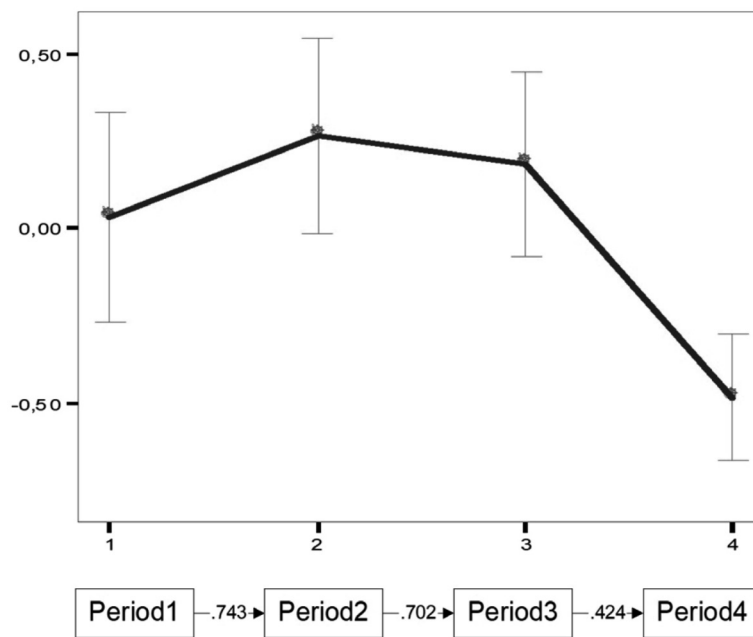
Fig. 2. Dynamics of the Factor1: Exploratory Activity

Table 4

Factor Loadings of the Indicators of Parent-Child Interaction on Factor 1: Exploratory Activity

Indicator	Factor loadings
F1(+)	
Objective activity +	0,779
Attention focus on the object +	0,778
Means of communication with the object +	0,622
Initiative towards the object +	0,618
Emotional reactions towards the object +	0,552
F1(-)	
Attention focus on the adult -	-0,556
Attention focus on the object -	-0,319

The second revealed factor is Personal Autonomy: the positive markers are aimed at the adult (emotional reactions towards the adult +, means of communication towards the adult +, initiative towards the adult +, sensitivity to the adult +, attention focus on the adult+): see Table 5. On the chart, we can observe a significant reducing shift in the fourth period although the general dynamics of the factor is relatively stable (Figure 3).

The third factor, Emotional Alienation, seems to have an ambivalent character. In a certain moment, a child can feel him- or herself involved into interaction with the adult and alienated from him or her (Table 6). It is interesting that alienation demands a certain force and persistence from the child. We would like to mention that in the fourth period a decline of the curve occurs and that is typical for all the charts (Figure 4).

On the second step of the analysis, we have decided to unite all three child's factors together and design a model using several rules: the measured variable of the previous period cannot predict the variable of the following period; the measured variable of the following period cannot predict the variable of the previous period; variables of errors (remainders) from various periods can neither predict each other nor correlate with each other; the variables of the same period cannot predict each other. Path analysis was used.

It is interesting to pay attention to the relations between the child's factors: they can be presented as a triangle (Figure 5).

Based on the diagram, one can make the following interpretation: the exploratory activity of the child (what the parent wants to achieve) in the third period is determined by the initial interaction with the parent, and then by alienation from the adult. It can be interpreted as distancing from the adult and transfer to independent activity. Each of those stages of communication takes time; hence, a high level of interruption of the child's actions decreases the child's activity. Analyzing this model and the data obtained in the research, one can conclude that a high degree of emotional alienation between the child and the adult can support the independent exploratory activity of the child.
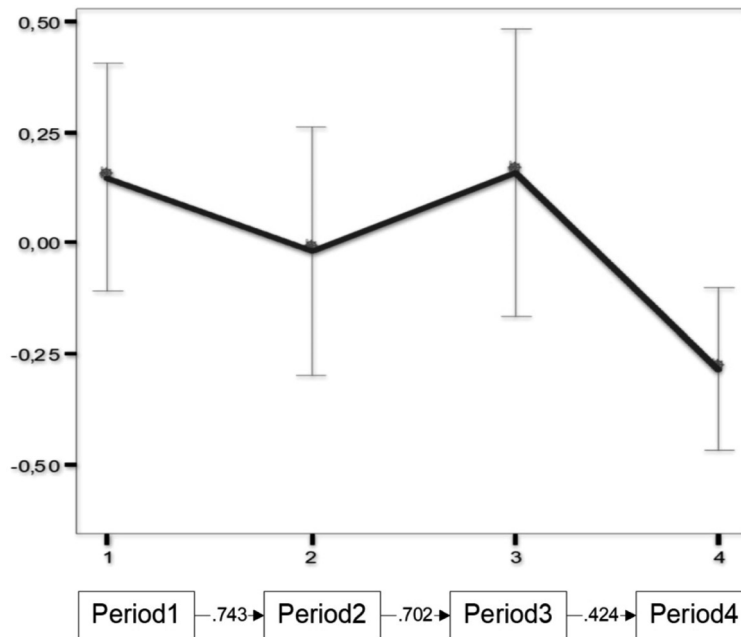
Fig. 3. Dynamics of the Factor1: Exploratory Activity

Table 5

Factor Loadings of the Indicators of Parent-Child Interaction of Factor 2: Personal Autonomy

Indicator	Factor loadings
F2(+)	
Emotional reactions towards the adult +	0,737
Communication means towards the adult +	0,680
Initiative towards the adult +	0,671
Sensitivity towards the adult +	0,661
Attention focus on the adult +	0,601
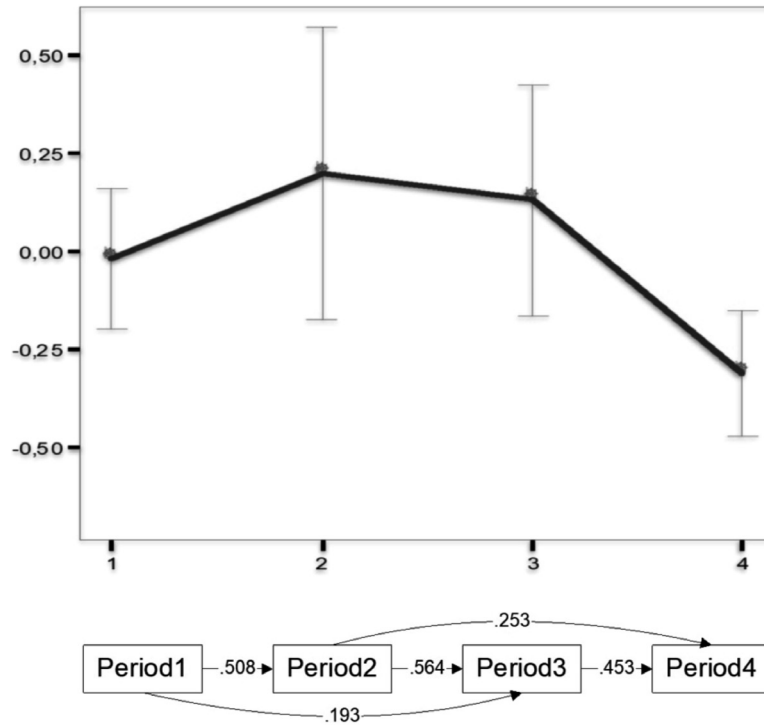
Fig. 4. Dynamics of the Factor 3: Emotional Alienation

Table 6

Factor Loads of the Indicators of Parent-Child Interaction of Factor 3: Emotional Alienation

Indicator	Factor load
F3(+)	
Emotional reactions towards the adult -	0,902
Communication means towards the adult -	0,839
Sensitivity towards the adult -	0,667
Objective activity -	0,381
Communication means towards the object-	0,218
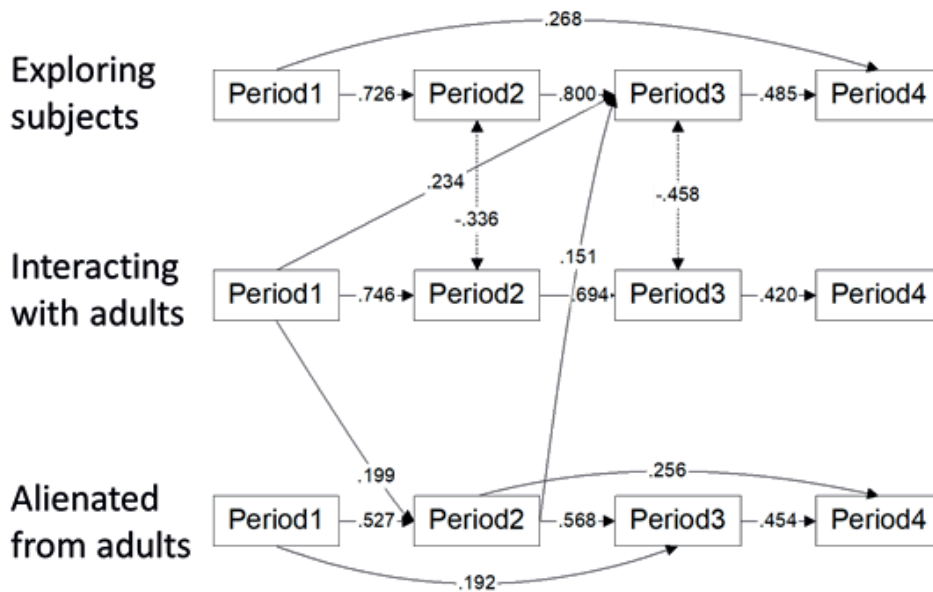
$X^2 = 39.284$, df = 49, p = 0.83, CFI = 1.0, RMSEA = 0.0

Fig. 5. The relations between the child's factors during the time periods

Discussion

In the process of results analysis, three factors of the child's indicators reflecting medium values of the factors in each period have been marked out. We are going to describe the characteristics of each factor.

The first factor, "Exploratory Activity", reflects the indicators characterizing independent studying the object by the child.

Interpretation: The child explores the object him- or herself, tries to fulfill the need to manipulate with it independently, and show initiative towards exploring the object. The child examines his or her exploratory abilities; a stimulus to self-development, formation of exploratory competence, and eagerness to learn something new is being formed.

The second factor, "Personal Autonomy", reflects the indicators characterizing the interaction of the child with the adult.

Interpretation: Personal Autonomy relates to a high level of integrity and openness to the experience when the child is able to express the emotional reactions including negative ones openly and that speaks for the emotional authenticity of personality. The child is the author of his or her actions and acts according to his or her internal state. The child's initiative is connected with his or her active subjectivity, freedom of choice of actions, ability to present the ways of actions with the object to the significant adult.

The third factor, "Emotional Alienation", reflects the indicators characterizing authentic behavior of the child, when the child can express emotionally his or her state; it shows firmness, independence, the persistence of the child and demonstrates emotional alienation from the adult.

Interpretation: The child is oriented neither on the adult nor on the object. The child refuses to interact with the object chosen by the adult; he or she is upset and shows negative reactions towards the adult. He or she experiences negative emotions. This behavior script fixes the emergence of the symptoms of the 3-year crisis, "negativism" [2]. That is a negative emotion connected with the child's attitude towards the adult. The child does not explore the object only because the process is initiated by the adult.

Conclusions

1. As the result of the research, the system of communicative signals of a child of an early age allowing to trace their intensity has been designed. The model of the analysis of dynamics of the child's communicative behavior at an early age when interacting with the significant adult has been introduced. All the factors are stable in time: auto-correlational dynamical rows are characterized by high values of the correlation coefficients. Development and transforma-

tion of the parent-child interaction occur in the continuous contact in the process of spontaneous play of the child.

2. Support of the child's initiative and independence influences the formation of personal autonomy as a mature form of self-regulation at an early age. Autonomy relates to a high level of integrity and openness to the experience when the child can express the emotional reactions, including negative ones openly and that speaks for the emotional authenticity of the personality. The communicative space of parent-child interaction [1; 11] stimulates his or her exploratory activity. The spontaneous game can be characterized as the territory of the actual development of a child providing opportunities for studying his or her needs and interests.

3. The child's interactions with the adult and alienation of him or her can play an ambivalent part in the exploratory activity of the child: they can have both positive and negative impacts. A dynamical change of the factors can be traced: Personal autonomy → Emotional alienation → Exploratory activity. Parents should not be afraid of the emotional alienation of the child and prevent it in the process of interaction. Persistent initiative of the parent, his or her involvement in the activity can deprive the child's opportunity to get an experience of real exploration of the object and that can prevent the development of personal autonomy and independence at an early age. It is especially important at the end of the early age and relates to the personality transformations in the 3-year crisis.

Research Perspectives

Attention to the details, thorough approach to data collection and analysis, laid in the M.I. Lisina's research paradigm, nowadays can be realized due to application of digital technologies and video-observation in the process of interaction with the option of the record by the software Observer-XT 14. In our research, we were guided by M.I. Lisina's thesis postulating that the most important characteristic is the activity of a person, his or her subjective attitude reflected in the communication process via initiative towards the communication partner and in the return reactions to his or her actions.

Continuing M.I. Lisina's ideas on the fundamental role of communication for the formation of the cognitive activity, the child's independence in the process of interaction with the adult, it is necessary to reconsider specific forms of communication of the child and adult for a certain micro-phase of social-economic development with précising certain mental new formations in the conditions of transformations of the society. The further work on clinical video-observations and experimental probes for standardization of the scale of evaluation of the independence of the child; broadening the sample

alongside with its differentiation not by gender only but by social-demographical and cross-cultural characteristics; including the significant adult into interaction with children of other age periods of ontogenesis shall be carried out [7]. It is especially important for adolescents, for whom the formation of readiness to an independent life is the parameter of stability in the world of adults [15].

According to the contemporaries' and followers' memoirs, Maya Ivanovna Lisina had a gift to understand

and perceive the signals of a child's behavior, be sensitive to every shadow of reaction demonstrated by children. The Scale of Communicative Signals of a Child will allow considering all sides of the parent-child interaction in full scope using video-observation for revealing needs and emotional experience. This will help to understand the internal world of the child and allow the specialists and parents to be more sensitive to the requirements and interests of children.

References

1. Veraksa N.E. Detskoe razvitie: dve paradigmy [Child Development: Two Paradigms]. *Kul'turno-istoricheskaya psikhologiya=Cultural-Historical Psychology*, 2018. Vol. 14, no. 2, pp. 102—108. DOI:10.17759/chp.2018140211. (In Russ.).

2. Vygotskiĭ L.S. Sobranie sochinenii: v 6 t. T. 4 [Collected works: in 6 vol. Vol. 4]. In Zaporozhtsa A.V. (ed.). Moscow: Pedagogika, 1984. 432 p. (In Russ.).

3. Galasyuk I.N., Shinina T.V., Irgashev N.R., Morozova I.G., Pasechnik O.N. Otkrytaya professional'naya ekspertiza metodiki detsko-roditel'skogo vzaimodei-stviya: vektory razvitiya psikhologicheskogo instrumentariya [Open professional examination of the methodology of parent-child interaction: development vectors of psychological tools]. *Aktual'nye problemy psikhologicheskogo znaniya. Teoreticheskie i prakticheskie problemy psikhologii=Actual problems of psychological knowledge. Theoretical and practical problems of psychology*, 2018, no. 3 (48), pp. 5—24. (In Russ.).

4. Galasyuk I.N. Semeinaya psikhologiya: metodika «otsenka detsko-roditel'skogo vzaimodeistviya». Evaluation of child-parent interaction (ecpi-2.0) [Family psychology: evaluation of child-parent interaction (ecpi-2.0)]. In Galasyuk I.N., Shinina T.V. (eds.). Moscow: Publ. Yurait, 2019. 223 p. (In Russ.).

5. Galasyuk I.N., Shinina T.V. «Otsenka detsko-roditel'skogo vzaimodeistviya» Evaluation of child-parent interaction (ECPI) [Evaluation of child-parent interaction (ECPI)]. Moscow: ITD Perspektiva, 2017. 304 p. (In Russ.).

6. Davydov V.V. Kategoriya deyatel'nosti i psikhicheskogo otrazheniya v teorii A.N. Leont'eva [The category of activity and mental reflection in the theory of A.N. Leontiev]. *Vestnik Moskovskogo universiteta. Seriya 14: Psikhologiya=Bulletin of Moscow State University. Series 14: Psychology*, 1979, no. 4, p. 25. (In Russ.).

7. Krivtsova S.V. Periodizatsiya razvitiya samosti ot rozhdeniya do semi let: ekzistentsial'nyi analiz [Periodization of the development of the self from birth to seven years: an existential analysis]. *Voprosy psikhologii=Psychology issues*, 2017, no. 2, pp. 29—45. (In Russ.).

8. Leont'ev A.N. Stanovlenie psikhologii deyatel'nosti. Rannie raboty [The establishment of the psychology of activity. Early work]. In Leont'ev A.A. (eds.). Moscow: Smysl, 2003. 880 p. (In Russ.).

9. Lisina M.I. Problemy ontogeneza obshcheniya [Communication ontogenesis problems]. Moscow: Pedagogika, 1986. 144 p. (In Russ.).

10. Lisina M.I. Formirovanie lichnosti rebenka v obshchenii [The formation of the personality of the child in communication]. Saint-Petersburg: Publ. Piter, 2009. 320 p. (In Russ.).

11. Smirnova E.O. Usloviya formirovaniya i podderzhki detskoi initsiativy v detskom sadu [Conditions for the formation

Литература

1. *Веракса Н.Е.* Детское развитие: две парадигмы // Культурно-историческая психология. 2018. Т. 14. № 2. С. 102—108. DOI:10.17759/chp.2018140211

2. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 4 / Под ред. А.В. Запорожца. М.: Педагогика, 1984. 432 с.

3. *Галасюк И.Н., Шинина Т.В., Иргашев Н.Р., Морозова И.Г., Пасечник О.Н.* Открытая профессиональная экспертиза методики детско-родительского взаимодействия: векторы развития психологического инструментария // Актуальные проблемы психологического знания. Теоретические и практические проблемы психологии. 2018. № 3 (48). С. 5—24.

4. *Галасюк И.Н.* Семейная психология: методика «Оценка детско-родительского взаимодействия». Evaluation of child-parent interaction (ecpi-2.0): практ. пособие / Под ред. И.Н. Галасюк, Т.В. Шининой. М.: Юрайт, 2019. 223 с.

5. *Галасюк И.Н., Шинина Т.В.* «Оценка детско-родительского взаимодействия» Evaluation of child-parent interaction (ECPI). М.: ИТД «Перспектива», 2017. 304 с.

6. *Давыдов В.В.* Категория деятельности и психического отражения в теории А.Н. Леонтьева // Вестник Московского университета. Серия 14: Психология. 1979. № 4. С. 25.

7. *Кривцова С.В.* Периодизация развития самости от рождения до семи лет: экзистенциальный анализ // Вопросы психологии. 2017. № 2. С. 29—45

8. *Леонтьев А.Н.* Становление психологии деятельности. Ранние работы / Под ред. А.А. Леонтьева и др. М.: Смысл, 2003. 880 с.

9. *Лисина М.И.* Проблемы онтогенеза общения. М.: Педагогика, 1986. 144 с.

10. *Лисина М.И.* Формирование личности ребенка в общении. СПб.: Изд-во «Питер», 2009. 320 с.

11. *Смирнова Е.О.* Условия формирования и поддержки детской инициативы в детском саду // Детский сад: теория и практика. 2016. № 6 (66). С. 18—31.

12. *Солдатова Г.У.* Цифровая социализация в культурно-исторической парадигме: изменяющийся ребенок в изменяющемся мире // Социальная психология и общество. 2018. Т. 9. № 3. С. 71—80 DOI:17759/sps.2018090308

13. *Токарская Л.В., Лаврова М.А.* Методики оценки раннего детско-родительского взаимодействия // Культурно-историческая психология. 2018. Том 14. № 2. С. 86—92. DOI:10.17759/chp.2018140209

14. *Green J., Pickles A., Pasco G., Bedford R., Wan M.W., Elsabbagh M., Slonims V., Gliga T., Jones E.J.H., Cheung C.H.M., Charman T., Johnson M.H* et al. Randomised trial of a parent-mediated intervention for infants at high risk for autism: longitudinal outcomes to age 3 years // Journal of Child

and support of a children's initiative in kindergarten]. *Detskii sad: teoriya i praktika=Kindergarten: theory and practice*, 2016, no. 6 (66), pp. 18—31. (In Russ.).

12. Soldatova G.U. Tsifrovaya sotsializatsiya v kul'turnoistoricheskoi paradigme: izmenyayushchiisya rebenok v izmenyayushchemsya mire [Digital socialization in the cultural-historical paradigm: a changing child in a changing world]. *Sotsial'naia psikhologiia i obshchestvo=Social Psychology and Society*, 2018. Vol. 9, no. 3, pp. 71—80. DOI:10.17759/sps.2018090308. (In Russ.).

13. Tokarskaya L.V., Lavrova M.A. Metodiki otsenki rannego detsko-roditel'skogo vzaimodei stviya [Early Parent-Child Interaction Assessment Techniques]. *Kul'turno-istoricheskaya psikhologiya=Cultural-Historical Psychology*, 2018. Vol. 14, no. 2, pp. 86—92. DOI:10.17759/chp.2018140209 (In Russ.).

14. Green J., Pickles A., Pasco G., Bedford R., Wan M.W., Elsabbagh M., Slonims V., Gliga T., Jones E.J.H., Cheung C.H.M., Charman T., Johnson M.H et al. Randomised trial of a parent-mediated intervention for infants at high risk for autism: longitudinal outcomes to age 3 years. *Journal of Child Psychology and Psychiatry*, 2017. Vol. 58 (12), pp. 1—11. DOI:10.1111/jcpp.12728.

15. Shinina T.V., Mitina O.V. Design and Validation of the «Adolescents' Readiness for Independent Living» Questionnaire: Assessment and Development of Life Skills. *Psikhologicheskaya nauka i obrazovanie=Psychological Science and Education*, 2019. Vol. 24, no. 1, pp. 50—68. DOI:10.17759/pse.2019240104.

16. Thomas J.C., Letourneau N., Campbell T.S., Tomfohr-Madsen L., Giesbrecht G.F. Developmental Origins of Infant Emotion Regulation: Mediation by Temperamental Negativity and Moderation by Maternal Sensitivity. *Developmental Psychology*, 2017. Vol. 53 (4), pp. 611—628. DOI:10.1037/dev0000279

17. Weber A., Harrison T.M., Steward D., Sinnott L., Shoben A. Oxytocin trajectories and social engagement in extremely premature infants during NICU hospitalization. *Infant Behavior and Development*, 2017. Vol. 48, pp. 78—87. DOI:10.1016/j.infbeh.2017.05.006

Psychology and Psychiatry. 2017. Vol. 58 (12). P. 1—11. DOI:10.1111/jcpp.12728

15. *Shinina T.V., Mitina O.V.* Design and Validation of the «Adolescents' Readiness for Independent Living» Questionnaire: Assessment and Development of Life Skills // Psychological Science and Education. 2019. Vol. 24. № 1. P. 50—68. DOI:10.17759/pse.2019240104.

16. *Thomas J.C., Letourneau N., Campbell T.S., Tomfohr-Madsen L., Giesbrecht G.F.* Developmental Origins of Infant Emotion Regulation: Mediation by Temperamental Negativity and Moderation by Maternal Sensitivity // Developmental Psychology. 2017. Vol. 53 (4). P. 611—628. DOI:10.1037/dev0000279

17. *Weber A., Harrison T.M., Steward D., Sinnott L., Shoben A.* Oxytocin trajectories and social engagement in extremely premature infants during NICU hospitalization // Infant Behavior and Development. 2017. Vol. 48. P. 78—87. DOI:10.1016/j.infbeh.2017.05.006

Information about the authors
Tatyana V. Shinina, PhD in Psychology, Associate Professor, Department of Neuro-and Pathopsychological Development, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: https://orcid.org/0000-0001-5572-9104, e-mail: shininatv78@gmail.com

Olga V. Mitina, PhD in Psychology, Leading Scientific Fellow, Department of Psychology, Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/0000-0002-2237-4404, e-mail: omitina@inbox.ru

Информация об авторах
Шинина Татьяна Валерьевна, кандидат психологических наук, доцент кафедры нейро-и патопсихологии развития, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0001-5572-9104, e-mail: shininatv78@gmail.com

Митина Ольга Валентиновна, кандидат психологических наук, доцент, ведущий научный сотрудник, факультет психологии, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО МГУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-2237-4404, e-mail: omitina@inbox.ru

Learning Activity as The Zone of Proximal Development of Reflexive and Communicative Abilities of Children Aged 6—10 Years

Vitaly V. Rubtsov
Moscow State University of Psychology and Education (MSUPE), Moscow, Russia
ORCID: https://orcid.org/0000-0002-2050-8587, e-mail: rubtsovvv@mgppu.ru

Evgeniy I. Isaev
Moscow State University of Psychology and Education, Moscow, Russia
ORCID: https://orcid.org/0000-0002-4652-5780, e-mail: eiisaev@yandex.ru

Andrey V. Konokotin
Moscow State University of Psychology and Education, Moscow, Russia
ORCID: https://orcid.org/0000-0003-1639-4887, e-mail: konokotinav@mgppu.ru

The article presents precedents for the implementation of theoretical ideas laid down by L.S. Vygotsky in the concept of the zone of proximal development in modern developmental education. The importance of developing reflexive and communicative abilities of children 6—10 years old in educational activities is justified. The approach to the construction of the zone of proximal development as a specially organized form of collective learning activity of an adult and children in primary school is adopted. The system of developmental training of D.B. Elkonin—V.V. Davydova is considered as an example of activity technology that implements the ideas of L.S. Vygotsky about joint activities as a form of child development and, in fact, the zone of immediate development of reflexive and communicative abilities of 6—10 years old children. The results of the experimental study of the development of reflexive and communicative abilities of junior schoolchildren in national and local educational activities are presented.

Keywords: zone of proximal development, reflexive and communicative abilities, activity content of education, joint collective-distributed learning activity.

Учебная деятельность как зона ближайшего развития рефлексивных и коммуникативных способностей детей 6—10 лет

В.В. Рубцов
Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-2050-8587, e-mail: rubtsovvv@mgppu.ru

Е.И. Исаев
Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-4652-5780, e-mail: eiisaev@yandex.ru

А.В. Конокотин

Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0003-1639-4887, e-mail: konokotinav@mgppu.ru

В статье представлены прецеденты реализации теоретических идей, заложенных Л.С. Выготским в понятии зоны ближайшего развития, в современном развивающем образовании. Обосновывается важность развития в учебной деятельности рефлексивных и коммуникативных способностей детей 6—10 лет. Утверждается подход к построению зоны ближайшего развития как особо организованной формы коллективной учебной деятельности взрослого и детей в начальной школе. Система развивающего обучения Д.Б. Эльконина—В.В. Давыдова рассматривается как пример деятельностной технологии, реализующей идеи Л.С. Выготского о совместной деятельности как форме детского развития и, по сути, зоне ближайшего развития рефлексивных и коммуникативных способностей детей 6—10 лет. Представлены результаты экспериментального исследования развития рефлексивных и коммуникативных способностей младших школьников в совместной учебной деятельности.

Ключевые слова: зона ближайшего развития, рефлексивные и коммуникативные способности, деятельностное содержание образования, совместная коллективно-распределенная учебная деятельность.

1. The Zone of Proximal Development as a Methodological Principle of Developing Education

In the system of terms of the cultural-historical psychology, the term "Zone of proximal development" (ZPD) is one of the major. Scientific analysis of the cultural-historical direction in scientific publications in 2009-2019 showed that the most number of publications is related to the keywords: "Activity", "Instrument", the "Zone of proximal development" [17]. V.K. Zaretsky writes that "the zone of proximal development has drawn an amazing line from a general peripheral moment of the cultural-historical concept to the important methodological principle of diagnostic, pedagogical, correction-developing and, in last years, psychotherapeutic work" [9, p. 49].

Scientists' interest to the term the zone of proximal development can be clearly explained: on the one hand, this term defines interactions and interrelations between an adult and a child in education as overall and necessary form of child development, on the other hand — sets the general orientations to create psycho-pedagogical conditions of scientific terms, meta subject competences and personal educational results in children in the education process. Also, a number of publications on the possibility to use this term in the educational practice, differences in the interpretation of its sense and content provide the basis

for attentive consideration of the texts by L.S. Vygotsky in which he states the necessity to present this term.

The term "Zone of proximal development" was introduced by L.S. Vygotsky in the middle of the 30es years of the last century in the context of discussing the problems of relation of education and mental development. In his article "The Problem of Education and Mental Development in School Age", L.S. Vygotsky critically analyses three unsuccessful approaches to solving the problem and offers his solution. The approach of L.S. Vygotsky is based on the difference but not on opposition of education and development, on accepting his unity but not equality. He mentions that for scientific understanding of the relation of education and development, it is necessary to introduce a new, highly important term into science without which the issue under discussion cannot be solved in the right way. The topic concern the so-called zone of proximal development [5, p. 383]. According to L.S. Vygotsky, there is no concern about the necessity to define the level of a child's development which is the result of completed cycles of his development (actual level) to identify the possibility of his education. Nevertheless, to organize the process of education, it is not enough to use only the knowledge about the child's actual level of development: it is important to know what stays inside his zone of proximal development, which means what the child is able to do together with the adult and under support by the adult. "The difference between the levels

of the problems to solve which is available together with the adult, under support by the adult and in separate activity defines the zone pf proximal development" [at the same place, p. 385]. What the child can do today only under support of the adult, he can do alone tomorrow. The education arranged in the right way, creates the child's zone of proximal development, starts a number of internal processes of development.

The term of zone of proximal development is explained by L.S. Vygotsky as a form and method of developing "historical peculiarities of the human" in the child. For L.S. Vygotsky, the term of zone of proximal development fixes the law of the child's development, his development in education — the child develops in the society with the adult and peers. The role of an adult (a teacher) in the zone of proximal development is to organize the joint activity, relation of his activity with the child's activity. The key issues of the zone of proximal development for its creator are 1) development as appearing of new, potentially new in education, 2) development in society with an adult (a teacher) and peers (friends), 3) development in school education with the help of learned scientific terms, 4) individual differences in the levels of actual and in the zone of proximal development of classmates creating the basis for help individualization when learning a scientific term, 5) priority of defining the zone of proximal development when diagnosing the level of a pupil's mental development.

The precedents of the local practice-oriented studies including the explaining opportunities of the zone of proximal development construct, as a rule, are performed during solving actual problems of developing education oriented to the exact aspect, sense of this term.

For G.A. Zuckerman, the zone of proximal development is a special form of a child and an adult, in which the action of the adult is focused on the support of the initiative, separate action of the child. According to the author, the main idea of the developing education designers is to "prepare the meeting of the child and adult, a teacher and a pupil in a way it happens directly in the zone of proximal development of the children's' initiatives in a new type of interaction" [20, p. 72]. The relation of the one who can and the one who can not, the who knows and the one who does not know is an initial form of joint activity able to create the zone of proximal development. The developed form of such an interaction is a cooperation of the equals represented in relation "an adult — a group of people". Scientist assume, that the definition of ZPD as an area of transition from dependence to independence under support of an adult shall be added with an element "zone of half-dependence" As an intermediate stage between independently performed action (as the first stage). Especially in this area, a child who acts with his peer as with an equal partner, has an opportunity to practice traditionally adult actions in terms of control and evaluation. As a result, the practice and assumption of all kinds of actions inside the structure of the educational activities becomes possible. Thus, the adult's role is in special organization of the interaction of children which provides the development of studying ability [20, 21].

Based on L.S. Vygotsky's ideas about the zone of proximal development, V.K. Zaretsky developed the reflexive-activity approach to help children overcome learning difficulties. "The main idea of the approach, — writes the author, — is to base on the resource of the child as the subject of learning activity, its reflexivity and own development. This means that the task of a teacher — to help the child feel himself the subject of his own activity and its reflexivity, help him be in this a partner-colleague, help him enlarge his own resource. Since the child asks the adult for help, when is not able to act alone, meaning in ZPD, the adult is able to support him in a way to do it on his own, understand what he could do himself, which difficulty he faced, how exactly the adult helped him and what he needs to learn to do it on his own in future" [9, p. 51-51]. Reflexive-activity approach is an effective system of principles and technologies of support of the child's development in the process of his cooperation with adults and peers, based on the support of the child's position as a subject of his activity, its reflexivity, reconstruction and building of the ways of its implementation.

The profound analysis of the term the zone of proximal development in psycho-pedagogical studies and approaches to its implementation in the domestic and foreign educational practice was provided by A.A. Margolis [12; 13]. The analysis allowed the researcher to declare that the concepts and ideas of L.S. Vygotsky put in the term the zone of proximal development, have not been fully implemented in any of the existing systems of education.

A.A. Margolis mentions that the key idea of L.S. Vygotsky's ZPD is the development of scientific terms on the basis of the every-day ones: cooperation of the child and adult in the process of education is oriented to learning of scientific terms. ZPD is the scientific term; something that a child is not able to do. The child enters this zone with his initial concepts, life ideas, that become the actual level of his development. The development of scientific terms — a movement in the zone of proximal development — occurs on the basis of the development of every-day concepts. The learning process is the process of joint activity of the student and teacher on arranging of the scientific terms, summarised ways of action on the basis of development, transformation of the existing spontaneous terms. Based on this view, it can be stated that during the interaction in the form of ZPD between the teacher and student, the teacher shall create conditions to develop spontaneous concepts in the students.

ZPD in this case can be considered as an area (a unit of learning) in which in the process of specially organized interaction between the teacher and student (or the interaction between the students organized by the teacher), the process of spontaneous concepts and their transformation into scientific terms is taking place. [13, p. 22]. Therefore, the development of the methods of development in learning scientific terms on the basis of the initial concepts the children have, with orientation to the zone of proximal development when organizing the learning activity of the students, serves as a perspective direction of psycho-pedagogical studies.

2. Communicative and Reflexive Abilities as Learning Results of the Primary School

Researchers' special interest to the construct the "Zone of proximal development" comes from active discussing of the goals and content of general education in the worldwide pedagogy. In the last decade the school education revises the traditional focus on the subject knowledge, abilities and skills. The key competences of 21st century become the goals of education. The concept of the key competences (4K): critical thinking, creativity, communication, cooperation received a wide acknowledgment in pedagogical community. The abilities of reflexivity, communication, interaction and cooperation are considered as the educational results of general education within this conception.

Thus, FGOS of the primary general education defined a wide list of reflexive and communicative abilities of the primary school graduate as personal and meta subjective learning results:

— Development of cooperation abilities with adults and peers in different situations, the abilities not to create conflicts but find solutions out of disputable situations;

— Mastering the ways of problems solving of creative and searching character;

— Mastering of the initial forms of learning and personal reflexivity;

— Active use of the speech means and means of informational and communicative technologies for solving the communicative and learning tasks;

— Readiness to listen to the person and stay in dialogue;

— Readiness to accept the possibility of different points of view and the right of each and every one to have his own opinion, express his position, and argue his point of view and relation to an event

— Ability to define the general goal and ways to achieve it, agree the functions distribution and roles in the joint activity

— Readiness to solve the conflicts in cooperative way considering the interests of the partie [19]. Defining the

content and methods of mastering these competences, and the means of the evaluation to reach them belongs to the actual problems of modern psycho-pedagogical science.

In the latest years, "great ideas" became one of the remarkable approaches to master the content of general education. When defining this term, the scientists base on theoretical best practices of the grater frame "concept-based learning" (CBL). The idea of CBL is reorientation of the education from mastering the lists of facts and topics to the set of generalizations expressed by the concepts. When such an education is applied, the facts and topics are always a part of wider general context represented by these concepts. The facts and topics play the role of the linking element of the isolated material into the general picture [1, p. 3]. Scientists distinguish three main directions inside which the ideas close to CBL were expressed: 1) developing education by D.B. Elkonin-V.V. Davydov, 2) problem education (I.Ya. Lerner), 3) organization of education through basic meta-subject terms (Yu.V. Gromyko) [at the same place, p.7].

Admitting in general the possibility to place the present directions of the domestic psychology and pedagogy to the concept of "great ideas", we shall mention that they are united mainly by orientation on the activity content of education — the core of the theory of education activity as the method of the system of developing education by D.B. Elkonin-V.V. Davydov [8; 23]. The main ideas of the cultural-historical psychology of L.S. Vygotsky were implemented in the theory of education activity [2; 3; 4; 5]. The key idea was the concept on the process of education as the children's zone of proximal development by L.S. Vygotsky as a joint activity of children and adults in the form of the joint learning activity.

3. Development of Reflexive and Communicative Abilities of Children in the Joint Learning Activity

The main ideas of the theory of learning activity in the primary school is specified in the works by V.V. Davydov to the fullest possible extent [6; 7; 8]. Below are the key ideas:

1) Learning activity — an activity by doing which the children together with an adult (a teacher) master scientific (theoretical) terms and corresponding forms of activities;

2) The children master the ways of activity by solving special learning problems and doing specific learning activities: transforming, modelling, model transforming, controlling and evaluation;

3) The learning activity is built by an adult (adults) as a group activity — its basis is learning discussion, dialogue, open interaction between children and adults;

4) When solving learning problems and doing learning activities in the form of the group activity, the ability to analyse and plan own activities is developed in children, and also the reflexion as a special ability to consider own actions in the joint activity with others.

The basis of the activity learning content in the theory of the learning activity by V.V. Davydov is the scientific term as a generalized way of activity in the defined area. By mastering the ways of the activity which stay behind each of meta-subject terms, a pupil develops in mastering the content of the learning material. Knowledge is mastered by the child simultaneously with the method of action to acquire it. This is possible provided that the methods of activity are the goal and subject of development for the student. Being systematically involved in the implementation of educational activities to master scientific concepts, the student also masters the structural elements of educational activity, learns to learn. Educational activity can become a part of the content of education, provided that it becomes the subject of reflection and awareness. In the reflection of their transformations in the conditions of the learning situation, students single out and fix a general way of solving a whole class of specific practical problems. It is reflection that turns learning activity into the content of education, during the development of which the subjective position of the younger schoolchild, the subjectivity of his learning activity, becomes and develops.

We shall note a special role of educational subjectivity of the action of modeling in the development of reflection and the formation. The model representation of the significant relations of the subject area identified in the course of solving the educational task in the subject, graphical or alphabetic form and subsequent actions to transform the constructed model constitute the necessary links in the process of assimilation of theoretical knowledge and generalized methods [8]. B.D. Elkonin notes that "the concept-generalization is carried out in the model. The model is the language of a scientific concept" [22, p. 32]. When building a model and when deriving specific practical tasks from the model, the subject of schoolchildren's actions is the method of actions, reflection of their actions and their reasons.

The study of the learning activity as a zone of proximal development of reflexive and communicative abilities of children aged 6-10 is based on the central methodological principle of cultural-historical psychology about group activity as the initial form of development of human consciousness, his abilities and personality. With this approach, initially external collective activity acts as a kind of "Scene" for the actualization of mental processes, and the "School" as an institution of training and education is a culturally organized space of developing communities and activities of an adult and children (children themselves). The success and result of learning depends on how these communities and activities are built and developed: educational trajectories are formed for a particular child, his abilities are preserved and developed.

Today, the most striking example of the implementation of the idea of L.S. Vygotsky about cooperation between an adult and a child, about the interaction of children with each other in the zone of proximal development is the experience of organizing collectively distributed educational activities of children of primary school age in the system of developmental education by D.B. Elkonin-V.V. Davydov. In addition to the learning activities identified by V.V. Davydov, V.V. Rubtsov in his research substantiates a system of joint learning activities related to the coordination, planning and organization of interactions between students and adults, students with each other in solving a learning problem [14; 15; 16; 17; 18]. These actions are performed in the space of transformation by the learning community of the ways of action set by adults and modeling of new patterns of organization of joint learning activities to achieve a common result based on the processes of communication, reflection and mutual understanding.

In a study on the role of mutual understanding in the formation of concepts in children, it was revealed that the necessary condition for the emergence of mutual understanding between partners in joint activities is the restructuring of the methods set by adults for organizing their joint activities, achieved by participants through the analysis of the possibilities for cooperation of individual actions and their inclusion into the structure of joint action in connection with objectively changing conditions of activity [16]. If in experimental situations the participants turned to the analysis of the method of interaction with each other, tried to correlate their actions with the actions of their partner, they managed to identify the principle of organizing the subject area of the task. If the children were limited to simple control over the external conditions of the task, the process of the joint work fell apart, the task was not solved by the participants. It follows that the process of assimilation of the concept by students, the discovery of essential principles of organization of the studied subject is directly related to the way of organizing and coordinating the interactions of children and adults, communication of children among themselves in the process of solving problems [14].

In the experimental study of the joint actions of an adult with children and children between themselves, three different ways of organizing a joint action were identified, depending on its relation to an object or sign. *The first* way of organizing the action was built by the children without taking into account the result of their partner's operation. This method of organizing the joint action turned out to be a characteristic of those groups

where students were oriented to the external features of the object and the possibilities of individual action in relation to solving the problem and did not set themselves the task of controlling the joint action. *The second* way of organizing the action was built considering the result of the partner's operation. This happened in those groups of participants who were guided by the connection of external signs. In this case, the selection of the principle of systematization of objects occurred through the correlation of individual operations and the construction of joint action on this basis. *The third way* of organizing the joint action was built considering the links between the individual operations of the participants. Consideration of the organization scheme of the subject area of the task through the coordination of individual operations performed by the participants was specific for these groups was. The solution of the task for these groups was mediated by a new task — the organization of joint activities [15].

In each of the above studies, the communication of children with adults and among themselves, their "speech production" was subjected to a special analysis. The authors noted the dynamics of the development of the joint action: at the initial stages, operations between children were randomly divided, but later on, individual operations were distributed and coordinated depending on the scheme of joint action. As a result, from a discussion in the process of communication of operations with specific objects, the children moved on to an analysis and discussion of the very ways of building a joint action. In addition, the dynamics in the development of communication between students and the experimenter was noted. In the course of the transition of children to the joint action, to the analysis of the relationship of individual actions, they less and less turned to the experimenter and tried to involve the adult directly in the work of the group, their approaches to the adult were predominantly in the nature of demonstrating these possibilities of the joint actions. These features of communication indicated a commonality emerging between the participants, in which the organization of children's interactions with each other came to the fore front in relation to the solution of the objective problem [16].

In studies of this direction, communicative acts carried out by participants in an effective form were identified and described, for example, when one of the participants stopped in the process of performing an individual operation and continued it only after the start of the operation by his partner, as if in response to his action, in the attempt to anticipate, foreseen and plan for the overall intended outcome. Consequently, for the emergence of mutual understanding between the subjects of the joint activity, the action situation itself is not enough, it is necessary for the oncoming movement of subjects expressing and coordinating their attitudes, intentions and points of view regarding the object of action, during which the positions of each participant will be processed, rethought and take on the form, which cannot arise outside the situation of communication.

In studies of jointly distributed learning activities, it was shown that the psychological basis of developmental learning is the inclusion in the joint learning activities of various models of participants' actions, as well as models of the very forms of organizing joint activities. It is proved that the organization of the joint actions, which determines the genesis of educational and cognitive action, involves the connection of various models of object transformation (action schemes) and the differentiation of models with respect to the total product obtained in the activity. Such an organization initially arises under the conditions of involving various schemes of actions with an object in the process of performing common work and building a model of the action of another participant in the activity. It is under these conditions that the relationship between the scheme of one's own action and the corresponding change in the object being studied can be singled out and fixed by the student himself [18]. The data obtained in the research demonstrated the significant potential of a special organization of educational interactions between students and adults studying with each other in terms of developing the reflexive and communicative abilities of children aged 6—10.

Continuation of studying the joint learning activities as a zone of proximal development of meta-subject educational results of younger schoolchildren — the ability to learn, theoretical thinking — was the study of the psychological conditions for the development of personal educational results of children 6—10 years old: communicative and reflective abilities. We undertook an experimental study of the process of the formation and deployment of communicative and reflexive actions in the joint (paired) activity of primary school children to complete tasks that involve the coherence and coordination of individual actions to achieve the desired result. The research procedure, built on extracurricular material, completely modeled the learning situation in the search for a common mode of action in a particular subject area as the starting point of learning activity.

4. Experimental Research of the Zone of Proximal Development of Reflexive and Communicative Abilities of Younger Schoolchildren

Based on the above theoretical positions, as well as on the results of experimental studies of the collectively distributed educational activities of younger schoolchildren, we put forward the assumption that the most pro-

ductive process of developing reflexive and communicative abilities in children aged 6—10 occurs with a special organization of their educational interactions with an adult and between themselves, during which a gradual reorientation of students from the subject content of the problem being solved to the very method of interaction and organization of joint action is carried out.

To confirm this assumption, the "Scale" technique developed by V.V. Rubtsov and L. Martin [16] was applied. The technique is a round metal platform mounted on a metal tripod in such a way that the center of the platform acts simultaneously as the center of gravity. Three scales equally spaced from each other are applied to the platform on top, on which loads of different weights were placed. Children in the experiment work in pairs. They were offered balance problems, the correct solution of which depended on taking into account the ratio of the weight factors of the loads and their distance to the center of gravity. At the same time, the actions between the participants were distributed in such a way that one of them could change the weight of the load installed on his working half of the platform, but could not change the distance, and his partner, on the contrary, could change the distance of the load to the center of gravity, but could not regulate its weight. Each student worked only on his own half of the platform [11].

A specific feature of this technique is that the nature of the initial distribution of individual actions does not allow students to correctly solve the tasks alone, without involving a partner in the solution process. The activities of the partners were organized by the adult in such a way as to actualize the processes of communication and reflection among students from the very beginning of the work. As a result, we could directly observe and record the specific features and dynamics of the transformation of communicative and reflective processes that unfold between partners in the course of joint activities and the construction of a joint educational and cognitive action.

In total, the study involved 42 children of young schoolchildren (6—10 years old), students in grades 1—4 of 2 secondary schools in Moscow (see Table 1).

The specific features of the communicative and reflexive processes were recorded in detail by the experimenter in a special protocol for the interaction of the participants.

The analysis of experimental protocols made it possible to identify and describe four specific types of child-adult learning interactions. The structural elements of such educational interactions were the processes of communication, reflection, mutual understanding and exchange of actions. The indicator of the formation of one or another *type of educational interactions* was the qualitative originality and a certain system of hierarchical links between these processes. In this regard, we had the opportunity to identify and describe both "horizontal" relationships between the various elements that make up a holistic education — a way of interaction, and "vertical" relationships that connect with each other through a certain continuity and interpenetration the types of learning interactions themselves. Let us dwell in more detail on each type of learning interactions we have identified.

The pre-organizational type of learning interactions is characterized either by the lack of communication between the participants and the adult, as well as between the participants, or single statements / appeals that do not affect the content of the problem being solved and do not aim to include the partner in the process of joint search for a solution. For example, statements of the following content were noted: "What if I do this?", "What will happen if I add one?", "I will try to put it here, what will happen then?" etc. Such statements are not addressed directly to a partner or an adult and are a manifestation of egocentric speech.

It is also worth noting the significance of the emerging egocentric speech, which, according to L.S. Vygotsky, shows the child's awareness of difficulties in solving a problem and the emergence of processes associated with the search for ways to overcome such difficulties. Statements for themselves, which the participants demonstrated, were in this case nothing but a process of *reflection* arising and manifesting itself outwardly, i.e. the process of analyzing the possibilities of one's own action in relation to the partner's action in objectively changing conditions of the searching for a solution to the problem.

According to the results, the reflection of the participants was aimed, firstly, at correlating the implemented

Table 1

The Quantity of Students in Classes of Primary Level of Education

Grade		
Grade	Quantity	Percent
1st grade	10	23,8
2nd grade	12	28,6
3rd grade	14	33,3
4th grade	6	14,3
Total	42	100

individual modes of action with the results of these actions ("What happens when I do this?"), secondly, at analyzing the partner's action and its result. ("What happens when HE/SHE does this?"), to an analysis of the possibilities of correlating the results of one's own action and the actions of a partner (What will happen if ME-HE will do this, and HE/HER will do this?). It was the emerging process of reflection that became the foundation of the subsequently formed mutual understanding between the participants. However, at this stage of the formation of the joint action of the participants, there was still no mutual understanding between them. This is due, first of all, to the fact that a special communicative task (as an attempt to evoke in a partner the same or similar ideas about the subject properties of the object of action), which mediates the process of solving the subject task, has not yet arisen for the participants. At the same time, the very communicative function of such statements did not disappear, but only did not become the subject of awareness of the partners, did not become arbitrary.

It is important to note the fact that if one of the participants uttered a statement for himself, this prompted the partner to pay attention to his next action, the result of this action and adjust his action to the changed objective conditions. These statements became a kind of equivalent of a pointing gesture: firstly, they began to organize the actions of partners regarding each other's capabilities, and secondly, they drew the participants' attention to the need to communicate with each other and coordinate individual actions. The difference between such statements and the actual pointing gesture here is that the latter usually acts as a deliberate act of influencing a partner.

In general, a situation, when the solution of the problem still remains for the participants the product of their individual action, but at the same time, for the first time, an uncoordinated attempt to focus on the result of the partner's action appears, there is a prerequisite for the emergence of cooperation of individual actions, the transition of participants to the new — organizational — level of educational interactions. In this regard, the pre-organizational type of educational interaction can be characterized as a kind of "transitional stage", the necessary basis for the joint action that is being formed between students, within which each of the subjects of the unfolding situation is faced with individual limitations and the need to find ways overcoming them.

The organizational type of educational interactions is characterized by the formation and implementation of those prerequisites that were outlined at the stage of the pre-organizational type of educational interactions. Purposeful communication appears between partners, which is indicative in nature, however, it does not express an "order" or "ultimate demand" to a partner, but a request or advice to perform this or that action. Both partners begin to actively use non-verbal means of communication: a purposeful pointing gesture, imitations of actions, action-expectations, head nods, etc. The communication of the participants performs the regulatory function of the interaction process, while it acquires the character of arbitrariness. A process of reflection arises and develops, based on the participants' careful observation not only of the results of their own actions, but also of the results of the partner's actions. Participants try to establish a correspondence between the individual actions of each of them and their objective result.

The developing processes of reflection and communication become the basis for the process of mutual understanding that arises between the partners, determined, firstly, by direct observation of the results of the actions of each of the partners and the results of various ways of cooperating individual actions, and secondly, by communicative acts, through which the intentions and intentions of the participants are revealed and understood. A particularly vivid mutual understanding is manifested through the so-called "wow-effects", when one of the participants, in response to an action or appeal from a partner, says: "Ah-ah ... I understand how you want ..." or "Exactly, I think that it will be exactly the same either (about the balance of weighs).

The developing processes of communication, reflection and mutual understanding allow participants to transform their character by actions to achieve a common result: instead of individual activity, consistently performed actions are recorded with an assessment of the result of each of them. This essentially distinguishes the pre-organizational type of educational interaction from the organizational one — in the changing and meaningfully transforming processes of communication, reflection, exchange of actions, as well as mutual understanding, the orientation of participants to the analysis of each other's capabilities in relation to solving problems is manifested. There was a gradual transition of the participants from the analysis of the result of each individual action to an orientation towards joint action, based on an understanding of the common result as a way of cooperating individual actions. The structural ratio of the elements of the activities performed by the participants also changed. Thus, the individual actions of the participants, which earlier, at the pre-organizational stage, were aimed directly at solving the set task, here acquired the character of operations that form a larger unit — a joint action. It was the joint action, as a certain way of cooperating individual actions, that became for the participants a way of solving problems, while the movement of magnets around the installation and changing their number become operations performed based on the current situation.

However, it should be noted that a stable learning community between students has not yet emerged. This is due to the fact that the mutual understanding that arises between the participants is situational, largely random in nature, not associated with the deliberate coordination of the participants' individual ideas about the subject properties of the object of action, and the unfolding communication, although it performs a function that regulates the process of interaction, aimed at including a partner in a joint search for solving problems, does not affect the essential relationships that underlie the object under study. Nevertheless, as noted above, the type of educational interaction implemented by partners is a step forward in terms of developing their communicative and reflexive abilities and the educational activity itself in general, since they master and test new models of organizing learning and cognitive actions that are not available for them earlier in the framework of individual activities.

The next step is carried out by students who demonstrate a **reflexive-analytical type of learning interactions**, which is characterized by a change in the subject of the task solved by partners in joint activities. In this case, the very method of interaction became a subject for the participants, the analysis of which mediated the solution of a specific practical problem. Such features of the reorientation of participants from the analysis of the results of individual action or from simple cooperation to the identification of significant relationships between individual actions and, through them, the factors of balance, were manifested in the unfolding processes of communication, reflection and exchange of actions. Thus, communication took on the form of a discussion by the participants of the individual understanding of the subject properties of the object being transformed, ways of coordinating and interconnecting individual actions, ways of interaction, through which a stable mutual understanding developed. Reflection, previously based on direct observation of the results of individual actions of partners, as well as the product of joint action, at this stage included the very method of interaction as its subject and its relation to the identified objective characteristics of the object of action. Due to this new content, reflection became a means of modeling the essential relationships inherent in the phenomenon under study, and communication and exchange of actions became, respectively, the means of organizing and controlling the verification of this model. The object of reflection of the participants in this case was not the private relations of the elements of the problem being solved to the individual manifestations of the object in a given situation, but the essential relations revealed through the analysis of their manifestation in the realized ways of interaction with the partner.

The features of communicative-reflexive processes revealed in the study also determined the transformation of the very nature of the joint activity: for the participants, their individual actions ceased to exist as independent units and were not perceived outside of the joint action. When one of the participants began to perform his action, his partner, as it were, "adapted" to him, performing his action not sequentially, as in a cooperative community, but in parallel with the partner. Such a merging of the partners' actions indicates: 1) the emergence of the joint action that is inseparable into individual operations, 2) the emergence of a common emotional and semantic field of the joint action of the participants, when each of the partners co-experiences a moment of mutual understanding with a "like-minded person", i.e. a general understanding of the objectivity in the objective situation of the task and the possible action of the partner, aimed at achieving a common goal.

The way of interaction as a specific subject of analysis, as well as the communication and reflection arising on this occasion, become for children, according to the results, the basis on which the whole situation of the joint activity is built. Moreover, it is here that the activity acquires the content of the *learning* in the full sense of the word due to the fact that the participants reproduce and model the content of essential subject relations, acting as a special *collective subject*. At the same time, within the boundaries of this collective subject, each of its participants fully retains its personal subjectivity, independence and initiative. The personality is not lost or blurred in the abstract content of some kind of "over-personal" formation, but, on the contrary, it fully manifests its active essence, overcoming the boundaries of the zone of proximal development. In this regard, it is worth recalling once again how L.S. Vygotsky defined the concept of the "zone of proximal development" — this is what a child cannot yet do on his own, but what he is capable of under the guidance of an adult and in cooperation with him. What a child can do today in cooperation, tomorrow he will do on his own. The most important (and perhaps hidden) message of this idea is that the child does not master specific knowledge (a specific task, example, operation), but the way of organizing his activity, embedded in the way the child and adult, child and peer, in connection with which it becomes possible for him to solve/perform a whole spectrum of previously inaccessible tasks.

The obtained research data fully confirms precisely this idea: by implementing and developing the processes of communication, reflection, exchange of actions and mutual understanding in the process of solving problems and encountering restrictions set by adults, the students model, test and master new ways of educational interactions, which subsequently, in the process of internalization, are transformed into individual methods of educational and cognitive actions. In particular, this also applies to the communicative-reflexive abilities of students: it is these processes that become the main means of constructing a situation of productive educational interactions.

5. From Pre-educational to Educational Community: Trends in the Development of Communicative-reflexive Processes in the "Zone of Proximal Development"

In the course of the experimental study, it was found that the development and formation of educational interactions in the educational community are based on the processes of communication and reflection that arise and qualitatively change as a result of the collision of participants with specially set difficulties and individual limitations. When we say "learning community", we mean by this term socio-psychological education ("integrity"), which is characterized primarily by the orientation (focus) of the subjects of the joint activity to identify essential relationships, patterns of functioning of the object/phenomenon under study (i.e. on the solution of a learning problem) through the analysis of the methods of interaction with each other, disclosure of the relationship of individual actions and design of the trajectory for solving a certain class of problems through the joint action being built. This orientation is based on a common emotional and semantic field emerging between the subjects of the joint activity, characterized by "co-experiencing" the situation of mutual understanding with others, sharing the goals and motives of the joint action. Such a motive for partners in the joint activities is the coordination of individual actions with a partner and the construction of a field of possible actions in the context of changing conditions of the activity.

It is in this respect that it is important to consider the role of communication and reflection, acting, on the one hand, as *processes* that ensure the transition of participants from the pre-learning community (pre-learning type of interactions), when they are oriented primarily to the situational features and properties of the object being studied and the possibilities of individual action, to the actual *learning community* (learning type of interactions), on the other hand, as an emerging ability, i.e. as a result of the emergence and functioning of such a socio-psychological education. So, at the first stages of solving experimental problems, it is still impossible to say that students actually solve the learning problem. At the forefront, the possibilities of their individual action appear for the participants, the attempts to solve the problem "on their own", the reflection of the participants is mainly aimed at establishing a correspondence between the direction of their own action and its specific result without establishing the relationship of this result with the partner's action. Communication as a means of ensuring the exchange of actions, planning ways to jointly search for a solution to the problem does not yet arise, remains involuntary, goes, as it were, in the "background"; it is not fixed and is not specially distinguished in the interaction. Nevertheless, the communicative function of statements is not lost, it begins to be realized by the participants when they are faced with the impossibility of individually solving problems and overcoming the difficulties that arise. Arising as a purposeful process, communication, in turn, ensures the transformation of other components of the emerging community: reflection, mutual understanding, exchange of actions. So, the predominance of "speech for oneself", egocentric statements is connected in this case with reflection on one's own actions and their results. This is also a plan of individual activity, orientation in the conditions of the task and the situation itself.

With the emergence of purposeful, arbitrary communication as a necessary condition for overcoming conscious limitations, the direction of reflection also changes: it acquires a bidirectional character. Firstly, due to the constantly changing conditions of action, each participant continuously analyzes and establishes a connection between an individual action and its result, and secondly, they begin to analyze the relationship between each other's actions and their influence on the joint result. This is facilitated by the very form of communicative acts. For example, when solving problems of the "Scale" method, the following communication was recorded:

Participant 1: "You put it here."
Participant 2 (performs an action requested by a partner).
Participant 1: "And then I will do this" [24].

The action of one participant led to a change in the conditions of the action of the other, which was recorded by his partner and became the subject of reflexive analysis. There was a reorientation of participants from individual activity to cooperation of individual actions. However, the motive for their actions still remained the direct solution of a specific practical problem, since in terms of content, neither communication nor reflection were yet aimed at analyzing the relationship of their action with the action of another as a way to find a solution to all problems of this class. The participants have not yet set themselves a research task, including the search for essential conditions of action.

In a situation where the participants discussed the very method of combining individual actions and the intended product of this joint action, we can talk about the emergence of a new type of community — the actual learning community. This type of generality (reflexive-analytical) is in many ways reminiscent of the research activity of scientists: children put forward their own assumptions (often in the form of "brainstorming"), discard some of them, and empirically test the remaining assumptions. The next stage is the discussion of questions why such and such methods of combining individual actions turned out to be wrong, and this and that method was correct, the search for a relationship between the nature of the joint action and the laws of functioning of the subject of the action.

In this case, the processes of reflection also acquired a special quality: the participants are no longer simply trying to establish the relationship between objective actions

and their product, but are trying to understand and analyze why each of them sees the object of action from this and not another side. The subject of their analysis is the results of the reflection of the other, the understanding of the other about the object/phenomenon under study: "I think that you understand it this way, while I understand it that way. Why do we have different ideas? It is here that the actual learning situation arises: the knowledge of the object jointly and through another, the study of one's own ideas through the prism of the partner's ideas and, on this basis, the search for common points of contact — mutual understanding.

In this type of community, the processes of reflection, which are an internal component of the cognitive activity of the individual, become the subject of communication between partners. Analyzing and discussing various ways of interacting with each other and building a trajectory of action within the framework of the task in relation to each other's capabilities, the participants, thereby, reproduce and model the content of the objective relations that are essential for the task. In such a process of transition of participants to the solution of the actual learning problem in the learning community, the formation of communicative and reflective abilities of students takes place.

Conclusion

1. The concept of "Zone of Proximal Development", introduced by L.S. Vygotsky to substantiate the idea of the leading role of education in child development, acts in modern psychological and pedagogical science as a powerful methodological basis for building the practice of developmental education.

2. The implementation of the main ideas and meanings potentially embedded in the concept of the zone of proximal development has been consistently implemented in the system of developmental education by D.B. Elkonin-V.V. Davydov and his method — learning activity. Within and on the basis of the learning activity, the main growth of younger schoolchildren is formed: the ability to learn and theoretical thinking.

3. Modern studies of joint learning activities open up new opportunities for identifying the psychological conditions for constructing the zone of proximal development of personal learning results — the reflexive and communicative abilities of children aged 6—10 years.

4. Experimental studies of joint activity as a zone of proximal development of reflexive and communicative abilities of younger schoolchildren revealed three types of interaction in the process of searching for and identifying a common mode of action in a situation: pre-organizational, organizational, reflexive-analytical. Each of these types of interactions is characterized by a qualitatively specific way of implementing communicative and reflexive actions.

5. Each type of interaction in a joint activity corresponds to a certain community of its participants. The actual learning community arises at the reflexive-analytical level of interaction between participants in a joint action, when the results of the reflection of another, the understanding of the situation by the others and the actions in it, discussion and coordination with the other of joint actions become the subject of their analysis. This is where the learning situation appears: the knowledge of the object jointly and through another, the study of one's own ideas through the prism of the partner's ideas and, on this basis, the search for common points of contact — mutual understanding. It is possible to speak about the functioning of communicative and reflexive actions as abilities only at the reflexive-analytical level of their development in the educational community.

References

1. Bol'shie idei dlya soderzhaniya obrazovaniya [Great ideas for educational content]. In M.V. Gasinets, N.A. Avdeenko, A.M. Mikhailova, O.D. Fedorov, T.V. Pashchenko (ed.). Moscow: NIU VShE, 2020. 60 p. (In Russ.).
2. Vygotskii L.S. Sobranie sochinenii: V 6-ti t. T. 2. [Collected Works in 6 vol. Vol. 2]. *Problemy obshchei psikhologii* [*Problems of general psychology*]. Moscow: Pedagogika, 1982. 504 p. (In Russ.)..
3. Vygotskii L.S. Sobranie sochinenii: V 6-ti T. 3. [Collected Works in 6 vol. Vol. 3]. *Istoriya razvitiya vysshikh psikhicheskikh funktsii* [*The history of development of higher mental functions*]. Moscow: Pedagogika, 1983. 368 p. (In Russ.).
4. Vygotskii L.S. Sobranie sochinenii: v 6 t. T. 4. [Collected Works in 6 vol. Vol. 4] *Detskaya psikhologiya* [*Child psychology*]. Moscow: Pedagogika, 1984. 432 p. (In Russ.).
5. Vygotskii L.S. Problema obucheniya i umstvennogo razvitiya v shkol'nom vozraste [Learning and mental development problems at school age]. *Pedagogicheskaya psikhologiya* [*Pedagogical psychology*]. Moscow: Pedagogika, 1991, pp. 374—390. (In Russ.).

Литература

1. Большие идеи для содержания образования / М.В. Гасинец, Н.А. Авдеенко, А.М. Михайлова, О.Д. Федоров, Т.В. Пащенко. М.: НИУ ВШЭ, 2020. 60 с.
2. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 2. Проблемы общей психологии. М.: Педагогика, 1982. 504 с.
3. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 3. История развития высших психических функций. М.: Педагогика, 1983. 368 с.
4. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 4. Детская психология. М.: Педагогика, 1984. 432 с.
5. *Выготский Л.С.* Проблема обучения и умственного развития в школьном возрасте // Педагогическая психология. М.: Педагогика, 1991. С. 374—390.
6. *Давыдов В.В.* Виды обобщения в обучении. М.: Педагогика, 1972. 424 с.
7. *Давыдов В.В.* Проблемы развивающего обучения. М.: Педагогика, 1986. 240 с
8. *Давыдов В.В.* Теория развивающего обучения. М.: ПЕЛЕНГ, 1996. 544 с.

6. Davydov V.V. Vidy obobshcheniya v obuchenii [Types of generalization in learning]. Moscow: Pedagogika, 1972. 424 p. (In Russ.).

7. Davydov V.V. Problemy razvivayushchego obucheniya [Developmental learning problems]. Moscow: Pedagogika, 1986. 240 p. (In Russ.).

8. Davydov V.V. Teoriya razvivayushchego obucheniya [Developmental Learning Theory]. Moscow: PELENG, 1996. 544 p. (In Russ.).

9. Zaretskii V.K. Teorema L.S. Vygotskogo «Odin shag v obuchenii — sto shagov v razvitii»: v poiskakh dokazatel'stva [Elektronnyi resurs] [L.S. Vygotsky's Principle "One Step in Learning — A Hundred Steps in Development": In Search of Evidence]. *Kul'turno-istoricheskaya psikhologiya* [*Cultural-Historical Psychology*], 2015. Vol. 11, no. 3, pp. 44—63. Available at: https://psyjournals.ru/kip/2015/n3/zaretsky.shtml (Accessed: 22.11.2021). (In Russ.).

10. Isaev E.I. Vozrastno-normativnaya model' razvitiya mladshikh shkol'nikov [Elektronnyi resurs] [Age-normative Model of Development of Junior Schoolchidren]. *Psikhologicheskaya nauka i obrazovanie psyedu.ru = Psychological Science and Education psyedu.ru*, 2017. Vol. 9. no. 2, pp. 178—189. Available at: https://psyjournals.ru/psyedu_ru/2017/n2/Isaev_2.shtml (Accessed: 22.11.2021). (In Russ.).

11. Konokotin A.V. Vklyuchenie detei s osobymi obrazovatel'nymi potrebnostyami i normativno razvivayushchikhsya detei v sovmestnoe reshenie uchebnykh zadach (na primere resheniya zadach na ponimanie mul'tiplikativnykh otnoshenii) [Elektronnyi resurs] [Inclusion of Children with Special Educational Needs and Typically Developing Children in Joint Problem-Solving (With Tasks on Understanding Multiplicative Relations as an Example)]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2019. Vol. 15, no. 4, pp. 79—88. Available at: https://psyjournals.ru/kip/2019/n4/Konokotin.shtml (Accessed: 22.11.2021). (In Russ.).

12. Margolis A.A. Zona blizhaishego razvitiya, skaffolding i deyatel'nost' uchitelya [Elektronnyi resurs] [Zone of Proximal Development, Scaffolding and Teaching Practice]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2020. Vol. 16, no. 3, pp. 15—26. Available at: https://psyjournals.ru/kip/2020/n3/Margolis.shtml (Accessed: 22.11.2021). (In Russ.).

13. Margolis A.A. Zona blizhaishego razvitiya (ZBR) i organizatsiya uchebnoi deyatel'nosti uchashchikhsya [Elektronnyi resurs] [Zone of Proximal Development (ZPD) and Organization of Students Learning Activity]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2020. Vol. 25, no. 4, pp. 6—27. Available at: https://psyjournals.ru/psyedu/2020/n4/Margolis.shtml (Accessed: 22.11.2021). (In Russ.).

14. Rubtsov V.V. Organizatsiya i razvitie sovmestnykh deistvii detei v protsesse obucheniya [Organization and development of joint actions of children in the learning process]. Moscow, 1987. 160 p. (In Russ.).

15. Rubtsov V.V. Sovmestnaya uchebnaya deyatel'nost' v kontekste problemy sootnosheniya sotsial'nykh vzaimodeistvii i obucheniya [Joint learning activity in context of the problem of relationship between social interaction and learning]. *Voprosy psikhologii* [*Psychology issues*], 1998, no. 5, pp. 49—59. (In Russ.).

16. Rubtsov V.V. Sotsial'no-geneticheskaya psikhologiya razvivayushchego obrazovaniya: deyatel'nostnyi podkhod [Elektronnyi resurs] [Socio-genetic psychology of developing education: an activity approach]. Moscow: MGPPU, 2008. 416 p. Available at: http://psychlib.ru/mgppu/RSg-2008/RSG-001.HTM#$p1 (Accessed: 22.11.2021). (In Russ.).

17. Rubtsov V.V., Margolis A.A., Shvedovskaya A.A., Ponomareva V.V. Naukometricheskii analiz kul'turno-istoricheskogo napravleniya v nauchnykh publikatsiyakh 2009—2019 [Elektronnyi resurs] [Scientometric Analysis of Scientific Publications in Cultural-Historical Psychology Research

9. *Зарецкий В.К.* Теорема Л.С. Выготского «Один шаг в обучении — сто шагов в развитии»: в поисках доказательства [Электронный ресурс] // Культурно-историческая психология. 2015. Том 11. № 3. С. 44—63. URL: https://psyjournals.ru/kip/2015/n3/zaretsky.shtml (дата обращения: 22.11.2021).

10. *Исаев Е.И.* Возрастно-нормативная модель развития младших школьников [Электронный ресурс] // Психолого-педагогические исследования. 2017. Том 9. № 2. С. 178—189. URL: https://psyjournals.ru/psyedu_ru/2017/n2/Isaev_2.shtml (дата обращения: 22.11.2021).

11. *Конокотин А.В.* Включение детей с особыми образовательными потребностями и нормативно развивающихся детей в совместное решение учебных задач (на примере решения задач на понимание мультипликативных отношений) [Электронный ресурс] // Культурно-историческая психология. 2019. Том 15. № 4. С. 79—88. URL: https://psyjournals.ru/kip/2019/n4/Konokotin.shtml (дата обращения: 22.11.2021).

12. *Марголис А.А.* Зона ближайшего развития, скаффолдинг и деятельность учителя [Электронный ресурс] // Культурно-историческая психология. 2020. Том 16. № 3. С. 15—26. URL: https://psyjournals.ru/kip/2020/n3/Margolis.shtml (дата обращения: 22.11.2021).

13. *Марголис А.А.* Зона ближайшего развития (ЗБР) и организация учебной деятельности учащихся [Электронный ресурс] // Психологическая наука и образование. 2020. Том 25. № 4. С. 6—27. URL: https://psyjournals.ru/psyedu/2020/n4/Margolis.shtml (дата обращения: 22.11.2021).

14. *Рубцов В.В.* Организация и развитие совместных действий детей в процессе обучения. М., 1987. 160 с.

15. *Рубцов В.В.* Совместная учебная деятельность в контексте проблемы соотношения социальных взаимодействий и обучения // Вопросы психологии. 1998. № 5. С. 49—59.

16. *Рубцов В.В.* Социально-генетическая психология развивающего образования: деятельностный подход [Электронный ресурс]. М.: МГППУ, 2008. 416 с. URL: http://psychlib.ru/mgppu/RSg-2008/RSG-001.HTM#$p1 (дата обращения: 22.11.2021).

17. *Рубцов В.В., Марголис А.А., Шведовская А.А., Пономарева В.В.* Наукометрический анализ культурно-исторического направления в научных публикациях 2009—2019 годов [Электронный ресурс] // Культурно-историческая психология. 2019. Том 15. № 4. С. 119—132. URL: https://psyjournals.ru/kip/2019/n4/Rubtsov_et_al.shtml (дата обращения: 22.11.2021).

18. Совместная учебная деятельность и развитие детей [Электронный ресурс] // Коллективная монография / Под ред. В.В. Рубцова, И.М. Улановской. М.: ФГБОУ ВО МГППУ, 2021. 352 с. URL: https://psyjournals.ru/clcd_2021/issue/ (дата обращения: 22.11.2021).

19. Федеральный государственный образовательный стандарт начального общего образования [Электронный ресурс]. М., 2009. URL: https://fgos.ru/fgos/fgos-noo/ (дата обращения: 22.11.2021).

20. *Цукерман Г.А.* Взаимодействие ребенка и взрослого, творящее зону ближайшего развития [Электронный ресурс] // Культурно-историческая психология. 2006. Том 2. № 4. С. 61—73. URL: https://psyjournals.ru/kip/2006/n4/Tsukerman.shtml (дата обращения: 22.11.2021).

21. *Цукерман Г.А.* Совместное учебное действие: решенные и нерешенные вопросы [Электронный ресурс] // Психологическая наука и образование. 2020. Том 25. № 4. С. 51—59. URL: https://psyjournals.ru/psyedu/2020/n4/Zuckerman.shtml (дата обращения: 22.11.2021).

Area in 2009—2019]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2019. Vol. 15, no. 4, pp. 119—132. Available at: https://psyjournals.ru/kip/2019/n4/Rubtsov_et_al.shtml (Accessed: 22.11.2021). (In Russ.).

18. Rubtsov V.V. (eds.). Sovmestnaya uchebnaya deyatel'nost' i razvitie detei [Elektronnyi resurs] [Independent learning activities and child development]. Kollektivnaya monografiya.Moscow: FGBOU VO MGPPU, 2021. 352 p. Available at: https://psyjournals.ru/clcd_2021/issue/ (Accessed: 22.11.2021). (In Russ.).

19. Federal'nyi gosudarstvennyi obrazovatel'nyi standart nachal'nogo obshchego obrazovaniya [Elektronnyi resurs] [The federal state educational standard of primary education]. Moscow, 2009. Available at: https://fgos.ru/fgos/fgos-noo/ (Accessed: 22.11.2021). (In Russ.).

20. Tsukerman G.A. Vzaimodeistvie rebenka i vzroslogo, tvoryashchee zonu blizhaishego razvitiya [Elektronnyi resurs] [Child-Adult Interaction: The Creation of Zone of Proximal Development]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2006. Vol. 2, no. 4, pp. 61—73. Available at: https://psyjournals.ru/kip/2006/n4/Tsukerman.shtml (Accessed: 22.11.2021). (In Russ.).

21. Tsukerman G.A. Sovmestnoe uchebnoe deistvie: reshennye i nereshennye voprosy [Elektronnyi resurs] [Co-action of Learners: Resolved and Unresolved Issues]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*,2020. Vol. 25, no. 4, pp. 51—59. Available at: https://psyjournals.ru/psyedu/2020/n4/Zuckerman.shtml (Accessed: 22.11.2021). (In Russ.).

22. El'konin B.D. Sovremennost' teorii i praktiki Uchebnoi Deyatel'nosti: klyuchevye voprosy i perspektivy [Elektronnyi resurs] [Modern Era of the Theory and Practice of Learning Activity: Key Issues and Perspectives]. *Psikhologicheskaya nauka i obrazovanie* [*Psychological Science and Education*]. 2020, T. 25. no 4. pp. 28—39. Available at: https://psyjournals.ru/psyedu/2020/n4/Elkonin.shtml (Accessed: 22.11.2021). (In Russ.).

23. El'konin D.B. Izbrannye psikhologicheskie Trudy [Selected psychological works]. Moscow: Pedagogika, 1989. 560 p. (In Russ.).

24. Rubtsov V.V., Konokotin A.V. Formation of higher mental functions in children with special educational needs via social interaction. In Darlyne G. Nemeth, G. Glozman (eds.), *Evaluation and Treatment of Neuropsychologically Compromised Children*. San Diego: Elsilver, 2020, pp. 179—195. (In Russ).

22. *Эльконин Б.Д.* Современность теории и практики Учебной Деятельности: ключевые вопросы и перспективы [Электронный ресурс] // Психологическая наука и образование. 2020. Том 25. № 4. С. 28—39. URL: https://psyjournals.ru/psyedu/2020/n4/Elkonin.shtml (дата обращения: 22.11.2021).

23. *Эльконин Д.Б.* Избранные психологические труды. М.: Педагогика, 1989. 560 с.

24. *Rubtsov V.V., Konokotin A.V.* Formation of higher mental functions in children with special educational needs via social interaction // Evaluation and Treatment of Neuropsychologically Compromised Children / Darlyne G. Nemeth, G. Glozman (eds.). San Diego: Elsilver, 2020. P. 179—195.

Information about the authors

Vitalyi V. Rubtsov, Doctor of Psychology, Academician of the Russian Academy of Education, Professor, Head of the UNESCO Chair "Cultural and Historical Psychology of Childhood", President of the Moscow State University of Psychology and Education, Moscow, Russia, ORCID: https://orcid.org/0000-0002-2050-8587, e-mail: rubtsovvv@mgppu.ru

Evgeniy I. Isaev, Doctor of Psychology, Professor, Chair of Pedagogical Psychology named after Professor V.A. Guruzhapov, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: https:// orcid.org/0000-0002-4652-5780, e-mail: eiisaev@yandex.ru

Andrey V. Konokotin, Professor, Chair of Cultural-Historical Psychology of Childhood, Moscow State University of Psychology and Education, Moscow, Russia, ORCID: https://orcid.org/0000-0003-1639-4887, e-mail: konokotinav@mgppu.ru

Информация об авторах

Рубцов Виталий Владимирович, доктор психологических наук, профессор, академик Российской академии образования, президент, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-2050-8587, e-mail: rubtsovvv@mgppu.ru

Исаев Евгений Иванович, доктор психологических наук, профессор, профессор кафедры педагогической психология имени профессора В.А. Гуружапова, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-4652-5780, e-mail: eiisaev@yandex.ru

Конокотин Андрей Владимирович, преподаватель кафедры ЮНЕСКО «Культурно-историческая психология детства», Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация , ORCID: https://orcid.org/0000-0003-1639-4887, e-mail: konokotinav@mgppu.ru

The Relationship Between Dialectical Thinking and Emotion Understanding in Senior Preschool Children

Nikolay E.Veraksa
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0003-3752-7319, e-mail:neveraksa@gmail.com

Zlata V. Airapetyan
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-4466-9799, e-mail: zlata.a.v@yandex.ru

Margarita N. Gavrilova
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-8458-5266, e-mail: gavrilovamrg@gmail.com

Kristina S. Tarasova
Lomonosov Moscow State University, Moscow, Russia
e-mail: christinap@bk.ru

This study aims to clarify the methodological status of the category "activity Theoretical foundations of the relationship between child's cognitive and emotional development were formulated in the works of Russian and international authors. We consider a child's dialectical thinking genesis as one of the cognitive development lines. This research aimed to study the relationship between dialectical thinking and emotion understanding in older preschool children. It was assumed that there is a significant relationship between emotion understanding and the success of children in completing three particular dialectical tasks, such as overcoming contradictions, understanding the simplest developmental processes and making a creative product. This study included 148 children, aged 5—6. We evaluated the level of non-verbal intelligence, dialectical thinking and emotion understanding using the following techniques: "Raven's Coloured Progressive Matrices", "Drawing an unusual tree", "Cycles", "What can be both at the same time?" and the Russian version of the "Test of Emotion Comprehension". Correlational analysis of the resulting data revealed significant relationships between non-verbal intelligence, indicators of dialectical thinking and the overall level of emotion understanding. When controlling non-verbal intelligence, linear hierarchical regression analysis was used to demonstrate a significant contribution of dialectical thinking to the dispersion of values according to the general level of emotion understanding. The research results are of practical importance and make it possible to use transforming (understanding the simplest developmental processes and making a creative product) and overcoming contradictions as developmental tasks when working with children aged 5—6.

Keywords: emotion understanding, cognitive development, non-verbal intelligence, dialectical thinking, cyclical representations, dialectical mental actions.

Взаимосвязь диалектического мышления и понимания эмоций у старших дошкольников

Н.Е. Веракса
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0003-3752-7319, e-mail:neveraksa@gmail.com

З.В. Айрапетян
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-4466-9799, e-mail:zlata.a.v@yandex.ru

М.Н. Гаврилова
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID:https://orcid.org/0000-0002-8458-5266, e-mail:gavrilovamrg@gmail.com

К.С. Тарасова
Московский государственный университет имени М.В. Ломоносова,
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация,
e-mail:christinap@bk.ru

В работах отечественных и зарубежных авторов были сформулированы теоретические положения о связи когнитивного и эмоционального развития ребенка. В качестве одной из линий когнитивного развития нами рассматривается генезис диалектического мышления ребенка. Наше исследование было направлено на изучение связи диалектического мышления и понимания эмоций у детей старшего дошкольного возраста. Мы исходили из предположения, что существует значимая связь понимания эмоций с успешностью выполнения детьми трех базовых диалектических задач: преодоление противоречий, понимание простейших процессов развития, получение творческого продукта. Участниками исследования были 148 детей 5—6 лет. Была проведена диагностика развития невербального интеллекта, диалектического мышления и понимания эмоций с помощью методик «Цветные прогрессивные матрицы Дж. Равена»; «Рисунок необычного дерева», «Циклы», «Что может быть одновременно?»; «Тест на понимание эмоций» (русскоязычная версия методики Test of Emotional Comprehension). Корреляционный анализ полученных данных выявил значимые связи между невербальным интеллектом, показателями диалектического мышления и общим уровнем понимания эмоций. С помощью линейного иерархического регрессионного анализа был установлен значимый вклад диалектического мышления в дисперсию значений по общему уровню понимания эмоций при контроле невербального интеллекта. Полученные результаты имеют практическое значение и позволяют использовать задачи на преобразование и преодоление противоречий в качестве развивающих в работе с детьми в возрасте 5—6 лет.

Ключевые слова: понимание эмоций, когнитивное развитие, невербальный интеллект, диалектическое мышление, циклические представления, диалектические мыслительные действия.

Introduction

There are numerous studies of the connection between thought processes and emotion understanding in preschool children. Researchers have noted the positive impact of understanding emotions on academic success [13; 17] as well as on the ability to decenter [19]. On the other hand, they single out the contribution of nonverbal intelligence to the ability to understand emotions [11]. The aim of this research was to analyze the connection between emotions understanding and dialectical thinking in senior preschool children.

Understanding of emotions

Emotion understanding is defined as the ability to understand the nature, causes and consequences of one's own emotions as well as the emotions of others and is one of the key components of an individual's emotional competence [22]. Emotion understanding is of particular interest in this study, because in addition to experiencing an actual feeling, recognition and description of emotional states, it also includes cognitive aspects, such as explaining the nature and causes of emotions, predicting emotions, knowing and applying strategies for their regulation in everyday life [23].

The most widely used theoretical model for emotion understanding is an empirically derived model by P. Harris and F. Pons [23]. This model describes three stages in the emotion understanding development. It starts at the age of 3—5 years (external stage), when an understanding of the external causes of emotions becomes available to children. Then, at the age of 5—7 years (mental stage), when children begin to understand that ideas, beliefs and memories can cause various emotions and also that some emotions can be hidden. At the age of 7—9 years (reflexive stage), children learn to regulate their emotions using cognitive strategies, learn that moral rules can influence emotions and that some emotional states are mixed or even contradictory [23; 26].

Based on this theoretical model [23], F. Pons and P. Harris developed a comprehensive diagnostic tool for assessing the emotion understanding in children of preschool and primary school age, which is used in this study (Test of Emotion Comprehension) [22]. This tool was selected to evaluate children's ability to understand emotions as it allows us to estimate and analyze the aspects described above separately and has shown a high level of empirical data correspondence to the tool's theoretical basis ($\chi2/df = 22,702 / 24$ (p = 0,53); CFI = 1.000>0.90; RMSEA = ,000, N = 596 children of senior preschool age).

Another diagnostic tool suitable for the purposes of this study (to assess the emotion understanding in preschool children) is a set of techniques presented in the dissertation by O. Prusakova "The Genesis of Understanding Emotions" [10]. However, it was designed to diagnose only 3 to 7 years old children while the particular purpose of this research is to monitor the long-term development of emotion understanding in the participants of the study, which goes further than preschool age.

Formal and dialectical thinking

Two types of thinking are distinguished in the cognitive development of children and adults: such as formal-logical and dialectical thinking [2; 6; 7; 25]. In international psychology, the development of thinking is presented linearly moving from formal to post-formal (or dialectical) thinking [12; 25]. This approach was influenced by the work of J. Piaget. He emphasized that dialectics characterizes those processes where systems at first functioned independently, and then, once they were united into a single whole, significantly increased their capabilities [21]. Critically analyzing the works of J. Piaget, Riegel concluded that Piaget's theory was "based on dialectical thinking" [25, p. 366].

However, the intellect's phasic development according to J. Piaget, where at each subsequent stage the contradictions of the previous stage are resolved and a state of equilibrium is reached, weakens the dialectic of the

child's thought. According to K.F. Rigel, the dialectical process is important: "As for a child puzzled by an ambiguous element with multiple choice, it does not matter for understanding his/her thinking whether he/she finally finds the "correct" answer; what matters are the ambiguity and contradictions that he/she experiences" [25, p. 357]. Thus, there are prerequisites for dialectical thinking analysis in children, but at present, research is devoted to the thinking in adults.

In Russia in the second half of the 20th century, the issues of dialectical thinking were considered in the context of the relationship between formal and dialectical logic [7]. Within the framework of meaningful interpretation, dialectical thinking was associated with the solution of three types of problems such as: 1) overcoming contradictions [7, p. 311]; 2) understanding of development processes [7, p. 96]; 3) making a creative product [7, p. 91]. In this regard, the possibilities of solving such problems were investigated.

V. Maltsev [9] proposed to define dialectical logic as a special form of logic with its own formal structures that are different from the structures of traditional logic. This theoretical hypothesis began to be concretized within the framework of structural-dialectical psychology [2; 29]. The formation of dialectical thinking within the structural-dialectical approach began to be considered as an independent line of cognitive genesis, as well as a system of dialectical mental actions that allow preschoolers to deal with the opposites [3].

Dialectical thinking within the framework of the structural-dialectical approach includes both structural and substantive components [3], and represents a system of mental actions aimed at solving dialectical problems. The dialectical thought action of *transformation (T)* occurs when an object is transformed into its opposite in the course of solving problems in order to produce a creative product. The dialectical mental action of *mediation (M)* is the transformation of a contradictory situation by combining two opposites into an indivisible whole, overcoming the contradiction of its parts. Dialectical action of *seriation (S)* occurs when a subject mentally imagines one object gradually changing into its opposite: not immediately, but through an intermediate state. Dialectical action of *reversal (R)* is seriation performed in the reverse direction. Events start from the opposite **B** and are worked backwards towards opposite A. Reversal represents the "movement" of thoughts from an object to its opposite and then back to the original object allowing you to solve problems where the situation is developing.

Studies by N. Veraksa et al. [5; 29], show that skills develop *heterochronously* throughout the entire preschool period. The unity of a dialectical structure and its dynamic changes are also described by mathematical

categories [3]. The problem of how the creative abilities of preschooler develop is emphasized in studies working within the framework of this approach [2].

*The connection between thinking
and emotion understanding*

One of the pioneers in the study of emotional development in children was the outstanding Russian scientist A. Zaporozhets. He noted that the coordinated functioning of both emotional and cognitive spheres is required for a child to successfully perform any activity [8]. L. Vygotsky also pointed out the unity of affect and intellect, emphasizing that "there is a dynamic semantic system which is demonstrated by the unity of affective and intellectual processes. [...] in every idea there is a revised form of the affective relationship of the person to reality, presented in this idea" [6, p. 22]. On the contrary, J. Piaget [1] believed that emotions do not affect the structure of the thought process, but can stimulate or inhibit it. Despite numerous studies of the connection between emotional development and formal logic [17; 19; 20; 28], the question of the connection between the understanding of emotions and dialectical thinking has not yet been studied. While it opens up the opportunity for an individual to solve several types of tasks at once, which can greatly help in understanding, explaining, predicting and regulating emotions. This study was intended to contribute to filling this gap in psychological processes research in childhood, which probably arose as a result of considering dialectical thinking as postformal [1; 12; 18].

The main hypothesis of this research was the assumption that there are links not only between the emotion understanding components and between non-verbal intelligence (which has already been shown in previous studies) but also between emotion understanding components and dialectical thinking. At the same time, it was assumed that the success in performing basic dialectical tasks is not only related to the emotion understanding, but also makes a significant contribution to the development of children's ability to understand the nature and causes of emotions while controlling non-verbal intelligence.

Sample

The study involved 148 children aged 5—6 years (M=5,4), of which 56% were girls. All children attended preschool educational institutions in Moscow. Each child was examined individually in a bright, quiet room of the kindergartens which he/she attended. The results were obtained in the first half of the 2019—2020 academic year.

Methods

Russian version of the "Test of Emotion Comprehension" (TEC) [4; 22] was used to evaluate children's emotion understanding. The test assesses three components of emotion understanding: External, Mental and Meta components. The External components evaluate the ability to recognize emotions, understand the external causes of emotions, and understand the influence of desires on emotions. The Mental components evaluate the child's understanding of the role of beliefs and memories in relation to emotions, as well as understanding of hidden emotions. The Reflexive components evaluate the child's ability to understand mixed feelings, their ability to regulate emotions with cognitive strategies, and the impact of moral rules on the self-regulation of emotions. Each of the components is scored from 0 to 3. The overall level of emotion understanding is calculated as a total sum of points from 0 to 9.

Formal and dialectical thinking

Non-verbal intelligence was assessed using J. Raven's *"Coloured Progressive Matrices"* [24]. Each child was shown tasks in which he/she had to identify missing elements. The test contained 3 samples each made up of 12 tasks. The minimum possible score was 0, and the maximum was 36.

The *"Drawing an unusual tree"* [2] was used to evaluate the child's ability to produce a creative product. The solution involved the application of both dialectical and non-dialectical transformations in order to transform an object into its opposite. Each child was given the instruction to "draw an unusual tree." Tree drawings were divided into three types. Normative images of trees, where transformations were represented by minor changes, were given 0 points. Symbolic images of trees which demonstrated an understanding of "unusual" in opposition to "ordinary" but did so unrealistically, were assigned 1 point. Dialectical trees, which depicted the transformation of the structure and presented the relationship of opposites, were given 2 points.

The *"What can be both at the same time?"* [2] allowed to assess the child's ability to solve problems that require overcoming contradictions. The tasks involved mediating two opposites. Children had to come up with or find situations that are characterized by having opposite properties as required by the tasks. The solutions required the application of the dialectical mental action mediation, that allowed two opposites to be combined into an indivisible whole. The evaluation process consists of five questions. For example, children were asked to answer the question: "What can be black and white at the same time?" If the child could not find an answer, he/she was awarded 0 points. If the child's answer relat-

ed both opposites to the same object, but only for parts of the object (e.g. a penguin is black on its back and its belly is white) or required a process of transition to its opposite (the tree is alive, and when it's cut it is dead) they were given 1 point. If the answer involved both opposites characterizing the object as a whole, (for example, the reflection of a person in a mirror, which is both the person themselves, and another at the same time) they received 2 points. The minimum score was 0, and the maximum was 10 points.

The "Cycles" [2] was used to evaluate the children's understanding of simple developmental processes. Tasks were connected to the use of the dialectical mental actions of seriation and reversal, which revealed the child's understanding of cyclical representations. Cycles represent the unfolding of an event that begins and ends in the same state. In order to understand this, the child needed to imagine the structure as a whole, and perform two consecutive dialectical mental actions in the course of seriation, i.e. transformation and reversal. For example: the weather was sunny, then it turned bad, and a thunderstorm began (transformation), and then clouds dispersed, and the sun came out again (reversal). Each child was invited to arrange five cards with images to create a sequential story. In total, three stories were used such as: tea with sugar, a kettle with water, and the weather. If the child placed the five cards correctly during his/her first try, he/she was awarded 15 points. If the child had trouble with the task, he/she was presented with two half-cycles, and if he/she could complete those, he/she was awarded 12 points. If the child couldn't complete the task, the experimenter moved to the next one. For the fourth and fifth tasks, the child was presented with a series of pictures where the first and the last cards of the half-cycle were already in the correct position, and children needed to find a card that corresponded with the transformation process. Each correctly completed task was worth 3 points. The minimum score was 0 and the maximum was 45.

Results

The research data obtained were analyzed in three stages. At the first stage, descriptive statistics on how the children performed working with the evaluation tasks were calculated. At the second stage, a correlation analysis of the relationships between indicators of dialectical thinking and emotion understanding was carried out. And at the third stage, using a linear hierarchical regression analysis, a regression model was built, which made it possible to determine the uniqueness of the contribution of dialectical thinking indicators to the dispersion of values according to the general level of emotion understanding when controlling non-verbal intelligence.

The results of children's evaluation are presented in Table. 1. The distribution of scores for all components of the "Test of Emotion Comprehension" **(TEC)** indicates that the average value for the study sample corresponds to the age norm that was previously obtained on a sample of 596 children [2]. This indicates the normative development of emotion understanding by the participants in this research. The distribution of scores according to the "What can be both at the same time?" compared with the maximum possible values were shifted below the average, i.e. mental action mediation (M) is in the process of formation.

The results of the correlation analysis between indicators of dialectical thinking and indicators of understanding emotions are presented in Table 2.

Correlation analysis showed that children's results of the "Cycles" and "Raven's Progressive Color Matrices" are associated with all three components as well as the overall level of emotion understanding. Children's results in the "Drawing an unusual tree" are associated

Table 1
Mean Scores and Standard Deviations according to the Results of Children's Evaluation (N=148)

Indicators	Average	Standard Deviation	Range of Possible Scores
Emotion Understanding			
External component	2,50	0,75	0—3
Mental component	0,42	0,54	0—3
Reflexive component	1,22	1,00	0—3
Overall level	4,14	1,59	0—9
Thinking			
Raven's Coloured Progressive Matrices	14,91	7, 925	0—36
What can be both at the same time? (As a criterion of the dialectical action of mediation)	1,05	1,52	0—10
What can be both at the same time? (total score)	2,49	2,019	0—10
Cycles	22,84	10,24	0—45
Drawing an unusual tree	0,52	0,634	0—2

Table 2

Relationships Between Emotion Understanding Components and Indicators of Dialectical Thinking and Level of Non-verbal Intelligence (N=148)

	External	Mental	Reflexive	TEC (overall level)
Cycles	0.274**	0.164*	0.172*	0.276**
Drawing an unusual tree			0.242**	0.232**
Raven's Coloured Progressive Matrices	0.183*	0.193*	0.325**	0.346*

with the reflexive components as well as the overall level of emotion understanding. The analysis did not reveal significant relationships between the children's success in the performance of "What can be both at the same time?" and any of the TEC components.

To analyze the contribution of dialectical thinking indicators and non-verbal intelligence to the emotion understanding development, a linear hierarchical regression analysis was carried out. The regression model showed that 12,9% of the values dispersion of the general level of emotion understanding is explained by non-verbal intelligence ($β=0,71$; $p<0.01$), which corresponds to the results of earlier studies. However, when the predictors associated with dialectical thinking were included in the model (total score according to the "Cycles" and "Unusual Tree Drawing"), the explanatory power of the model increased to 22,2%, while remaining significant ($β=0,37$; $p < 0,02$ and $β=0,42$, $p < 0,025$). This result confirms the significance of the dialectical thinking contribution to the dispersion of values in terms of the overall level of emotion understanding when controlling non-verbal intelligence.

Discussion

Further supporting the results of previous studies [11; 16; 17;32], this research found a connection between formal thinking and the ability of children to understand the nature and causes of emotional states. However, the question of the relationship between emotion understanding and dialectical thinking had not yet been studied. The main research hypothesis was the assumption of the existence of significant relationships between the emotion understanding components with non-verbal intelligence (which has already been shown in previous studies), but also with dialectical mental actions.

The results of the analysis confirmed the hypothesis that there are links between dialectical thinking indicators and the ability of children to understand emotions. The children's successful use of the dialectical mental action *transformation (T)* was associated with their overall level of emotion understanding. The existence of such a connection can be explained by the nature of dialectical transformations. Understanding emotions, includ-

ing hidden and mixed emotions, is associated with the ability to identify contradictions and operate with the opposites inherent in them. Probably, it is the ability to operate with opposites, available to preschoolers as early as 5—6 years old, that acts as a general basis for the connection between the dialectical thinking development and emotion understanding in childhood.

The assumption about the connection between the understanding of the simplest developmental processes and all components of the emotion understanding has also been confirmed. The ability of children to formulate ideas about cyclical representations of everyday and natural processes correlates with the successful recognition of emotions (including hidden and mixed feelings), as well as with the awareness of being able to regulate emotions using cognitive strategies and moral rules. We believe an explanation for this relationship is the parallel structures that reflect the process of dialectical thinking [5] and the dynamics of emotional states [27]. Probably, it is the ability to combine cognizable processes into a single structure, which is available to preschoolers already at the age of 5-6, acts as a general basis for the connection between the dialectical thinking development and emotion understanding in childhood.

As a result of the regression analysis, it was revealed that such dialectical thinking indicators as cyclic representations and the dialectical thinking action of transformation, along with non-verbal intelligence, are predictors of children's emotion understanding. These results confirm the previously described origin of the development of dialectical mental actions, as well as its statistical independence from the influence of non-verbal intelligence on the emotion understanding [2].

The research results analysis did not confirm the assumption about the connection between the success of overcoming contradictions with the help of the dialectical mental action of mediation and emotion understanding. We explain the lack of expression of such a connection by the age-related features of emotion understanding development. A consistent understanding of mixed and conflicting emotions, as well as the ability to regulate emotions via cognitive strategies, as mentioned above [26], form in primary school age. At the same time, the dialectical mental action mediation at 5-6 years old creates the prerequisites for understanding contradicto-

ry situations in which opposites can be represented not only in the form of a situation's objective properties, but also as subjective emotional experiences [6, p. 22]. This result confirms the complexity of mixed and conflicting emotions understanding and the importance of the older preschool age in the formation of the prerequisites for building this concept. This result confirms the difficulty in understanding mixed and conflicting emotions and the importance of the older preschool age for the fundamental prerequisites to be in place to support such a difficult concept.

This study shows the role of dialectical thinking in the emotion understanding development in preschool children. The results are consistent with K. Riegel's previously expressed ideas on the significance of dialectical operations in the children's thinking development. Looking at dialectical actions in a cultural-historical context supports the validity of L. Vygotsky's proposal that affect and intellect are an indivisible whole.

Concluding results discussion, we would like to describe the limitations of this study. Some of them are associated with a sample of children aged 5—6 years, which reduces the possibility of analyzing age differences in the relationship between dialectical mental actions and emotion understanding. In particular, the sample diversification will help to clarify the assumption (that arose based on the analysis of the data obtained) about the possible significance of the dialectical mental action of mediation in creating prerequisites for the development of understanding of situations in which contradictory and mixed emotions arise in older preschool age. One of the prob-lems that is of interest for future research relates to the study of the impact of an intervention that activates the dialectical thinking of preschoolers on their emotional development.

Conclusion

The conducted research showed the connection between dialectical thinking and emotion understanding in senior preschool children. It was determined that genetically early forms of dialectical mental actions, such as the ability to perform the dialectical thought action of transformation and the action of dialectical seriation (i.e., the ability to operate with the simplest cyclic representations) are associated with the emotion understanding. At the same time, when controlling non-verbal intelligence, these mental actions make a significant contribution to the overall level of understanding of emotions in children aged 5—6 years. There was no connection found between the ability to solve problems to overcome contradictions with the help of the mental action of mediation and the emotion understanding in children of older preschool age. This result is of interest for future studies, including those on relationships with other forms of emotional manifestations in preschool age.

The research results are of practical importance and allow the use of tasks aimed at transforming and developing conflicting situations as developing ones while working with senior preschool children.

References

1. Brang'e Zh. K. Besedy s Zh. Piazhe. Beseda shestaya (1969): Znanie I affektivnost' [Conversations with Jean Piaget №6. Knowledges and affect]. *Psikhologicheskii zhurnal* [*Psychological journal*], 2000, no. 6, pp. 92—94. (In Russ.).

2. Veraksa N.E. Dialekticheskoe myshlenie [Dialectical thinking] Ufa: Vagant, 2006. 212 p. (In Russ.).

3. Veraksa N.E., Zadadaev S.A. Strukturno-dialekticheskii metod psikhologicheskogo analiza i ego matematicheskaya model'. Dialekticheskoe obuchenie. [The structural-dialectical method of psychological analysis and its mathematical model]. Moscow: Evrika, 2005. pp. 35—51. (In Russ.).

4. Veraksa N.E., Veraksa A.N., Gavrilova M.N., Bukhalenkova D.A., Tarasova K.S. Adaptatsiya russkoyazychnoi versii Testa na ponimanie emotsii na rossiiskoi vyborke detei doshkol'nogo vozrasta. *Psikhologiya. Zhurnal Vysshei shkoly ekonomiki* [*Psychology. Journal of High economic school*], 2021. Vol. 18, no. 1, pp. 56—70 (In Russ.).

5. Veraksa N.E., Zadadaev S.A., Senyukova Z.V. Tsiklicheskie predstavleniya i razvitie dialekticheskoi struktury myshleniya doshkol'nikov [Cyclic representations and the development of the dialectical structure of thinking of preschool children]. *Vestnik MGPU* [*Gerald of NGPU*], 2017, no. 1, pp. 54—64. (In Russ., abstr. in Engl.).

Литература

1. *Брангье Ж.К.* Беседы с Жаном Пиаже. Беседа шестая (Май—июнь, 1969): Знание и аффективность // Психологический журнал, 2000. № 6. С. 92—94.

2. *Веракса Н.Е.* Диалектическое мышление. Уфа: Вагант, 2006. 212 с.

3. *Веракса Н.Е., Зададаев С.А.* Структурно-диалектический метод психологического анализа и его математическая модель. Диалектическое обучение. М.: Эврика, 2005. С. 35—51.

4. *Веракса Н.Е., Веракса А.Н., Гаврилова М.Н., Бухаленкова Д.А., Тарасова К.С.* Адаптация русскоязычной версии Теста на понимание эмоций на российской выборке детей дошкольного возраста // Психология. Журнал Высшей школы экономики. 2021. Т. 18. № 1. С. 56—70.

5. *Веракса Н.Е., Зададаев С.А., Сенюкова З.В.* Циклические представления и развитие диалектической структуры мышления дошкольников // Вестник МГПУ. 2017. № 1. С. 54—64.

6. *Выготский Л.С.* Вопросы детской психологии М.: Изд-во Юрайт, 2017. 199 с.

7. Диалектика и логика. Законы мышления // Б.М. Кедров [и др.]; под ред. Б.М. Кедрова. М.: Изд-во академии наук СССР, 1962. 336 с.

6. Vygotskii L.S. Voprosy detskoi psikhologii [Child psychology issues]. Moscow: Publ. Yurait, 2017. 199 p. (In Russ.).

7. Dialektika i logika. Zakony myshleniya [Dialectics and logic. Thinking laws] Kedrov B.M (ed.) Moscow: Publ. Akademii nauk SSSR, 1962. 336 p. (In Russ.).

8. Zaporozhets A.V. Vospitanie emotsii i chuvstv u doshkol'nika [Education of emotions and feelings in a preschooler]. Moscow: *Prosveshchenie,* 1985. 176 p. (In Russ.).

9. Mal'tsev V.I. Dialekticheskii materializm i voprosy logiki Avtoref. diss. doktora filosof. nauk [Dialectical Materialism and Logic Issues. Ph.D. (Philosophy) Thesis], Moscow, 1953. 31 p. (In Russ.).

10. Prusakova O. A. Genezis ponimaniya emotsii: [The genesis of understanding emotions] dis. PhD. Moscow, In-t psikhologii RAN, 2005. (In Russ.).

11. Albanese O., De Stasio S., Di Chiacchio C., Fiorilli C., Pons F. Emotion comprehension: The impact of nonverbal intelligence. *Journal of Genetic Psychology*, 2010, no. 171, pp. 101—115. DOI:10.1080/00221320903548084

12. Basseches M. Dialectical thinking and adult development. Handbook of Creativity. Norwood, NJ: Ablex, 1984, pp. 199—208.

13. Blankson A.N. et al. Developmental dynamics of emotion and cognition processes in preschoolers.*Child Development,* 2013, vol.84, pp. 346—360. DOI:10.1111/j.1467-8624.2012.018

14. Doudin P.-A., Martin D., Albanese O. Métacognition et Education.*Peter Lang*, 2001, 250p.

15. Garrett-Peters, P., Castro, V.L., Halberstadt, A.G. Parents' beliefs about children's emotions, children's emotion knowledge, and classroom adjustment in middle childhood. *Social Development.* Advance online publication,2016. DOI:10.1111/sode.12222

16. Grazzani I., Ornaghi V., Conte E., Pepe A., Caprin C. The relation between emotion understanding and theory of mind in children aged 3 to 8: The key role of language. *Frontiers in Psychology*, 2011, no. 9, pp. 1—10. DOI:10.3389/fpsyg.2018.00724

17. Józsa K., Barrett K.C. Affective and social mastery motivation in preschool as predictors of early school success: a longitudinal study. *Early Childhood Research Quarterly,* 2011, no. 45, pp. 81—92.

18. Laske O. Dialectical thinking for integral leaders. A primer integral publishers, 2015, 163 p.

19. Leerkes E.M. et al Emotion and cognition processes in preschool children. *MerrillPalmer Quarterly,*2008. pp. 102—124.

20. Mathieson K., Banerjee R. Peer play, emotion understanding, and socio-moral explanation: The role of gender. *British Journal of Developmental Psychology*, 2011, no. 29, pp. 188—196. DOI:10.1111/j.2044-835X.2010.02020.x

21. Piaget J. Las formas elementales de la dialectica. Barcelona: Gedisa, 1982. 216 p.

22. Pons F., Harris P.L. Test of Emotion Comprehension — TEC Longitudinal change and longitudinal stability of individual differences in children's emotional understanding. Cognition and emotion. *University of Oxford*, 2000, no. 19, pp. 1158—1174.

23. Pons F., Harris P.L., de Rosnay M. Emotion comprehension between 3 and 11 years: developmental periods and hierarchical organization. *European journal of developmental psychology,* 2004, no. 1, pp. 127—152. DOI:10.1080/17405620344000022

24. Raven J., Raven J.C., Court J.H. Manual for Raven's progressive matrices and vocabulary scales. The coloured

8. *Запорожец, А.В.* Воспитание эмоций и чувств у дошкольника // Эмоциональное развитие дошкольника: пособие для воспитателя детского сада / Под ред. А.Д. Кошелевой. М.: Просвещение, 1985. 176 с.

9. *Мальцев, В.И.* Диалектический материализм и вопросы логики: автореф. дисс. ... д-ра философ. наук. М., 1953. 31 с.

10. *Прусакова О.А.* Генезис понимания эмоций: дисс. ... канд. психол. наук. М., 2005. 370 с.

11. *Albanese O., De Stasio S., Di Chiacchio C., Fiorilli C., Pons F.* Emotion comprehension: The impact of nonverbal intelligence // Journal of Genetic Psychology. 2010. № 171. P. 101—115. DOI:10.1080/00221320903548084

12. *Basseches M.* Dialectical thinking and adult development. Handbook of Creativity. Norwood, NJ: Ablex P., 1984. P. 199—208.

13. *Blankson A.N.* et al. Developmental dynamics of emotion and cognition processes in preschoolers // Child Development. 2013. № 84. P. 346—360. DOI:10.1111/j.1467-8624.2012.01841

14. *Doudin P.-A., Martin D., Albanese O.* Métacognition et Education. Peter Lang, 2001. 170 p.

15. *Garrett-Peters P., Castro, V.L., Halberstadt A.G.* Parents' beliefs about children's emotions, children's emotion knowledge, and classroom adjustment in middle childhood // Social Development. Advance online publication. 2016. Vol. 25. № 1. P. 66—81. DOI:10.1111/sode.12222

16. *Grazzani I., Ornaghi V., Conte E., Pepe A., Caprin C.* The relation between emotion understanding and theory of mind in children aged 3 to 8: The key role of language // Frontiers in Psychology. 2011. № 9. P. 1—10. DOI:10.3389/fpsyg.2018.00724

17. *Józsa K., Barrett K.C.* Affective and social mastery motivation in preschool as predictors of early school success: a longitudinal study // Early childhood research quarterly. 2018. № 45. P. 81—92. DOI:10.1016/j.ecresq.2018.05.007

18. *Laske O.* Dialectical thinking for integral leaders. A primer integral publishers, 2015. 163 p.

19. *Leerkes E.M.* et al. Emotion and cognition processes in preschool children // Merrill-Palmer Quarterly. 2008. P. 102—124.

20. *Mathieson K., Banerjee R.* Peer play, emotion understanding, and socio-moral explanation: The role of gender // British Journal of Developmental Psychology. 2011. № 29. P. 188—196. DOI:10.1111/j.2044-835X.2010.02020.x

21. *Piaget J.* Las formas elementales de la dialectica. Barcelona: Gedisa, 1982. 216 p.

22. *Pons F., Harris P.L.* Test of Emotion Comprehension (TEC). Longitudinal change and longitudinal stability of individual differences in children's emotional understanding // Cognition and emotion. University of Oxford. 2000. № 19. P. 1158—1174.

23. *Pons F., Harris P.L., Rosnay de M.* Emotion comprehension between 3 and 11 years: developmental periods and hierarchical organization // European journal of developmental psychology. 2004. № 1. P. 127—152. DOI:10.1080/17405620344000022

24. *Raven J., Raven J.C., Court J.H.* Manual for Raven's progressive matrices and vocabulary scales. The coloured progressive matrices. Oxford: Oxford Psychologists Press, 1998. 148 p.

25. *Riegel K.F.* Dialectic operations: The final period of cognitive development // Human development. 1973. № 16. P. 346—370. DOI:10.1159/000271287

26. *Saltzman J.A., Fiese B.H., Bost K.K., McBride B.A.* Development of appetite self-regulation: Integrating

progressive matrices. Oxford*: Oxford Psychologists Press,* 1998. 148 p.

25. Riegel K.F. Dialectic operations: The final period of cognitive development. *Human development.* 1973, no. 16, pp. 346—370.DOI:10.1159/000271287

26. Saltzman J.A., Fiese B.H., Bost K.K., McBride B.A. Development of appetite self-regulation: Integrating perspectives from attachment and family systems theory. *Child development perspectives,* 2018, no. 12, pp. 269—269

27. Scherer K.R., Ekman P. Approaches to Emotion. *Psychology Press,* 2017. pp.197—205.

28. Storbeck J., Clore G.L. On the interdependence of cognition and emotion. *Cognition and Emotion,* 2007, no. 21, pp. 1212—1237. DOI:10.1080/02699930701438020

29. Veraksa N.E., Belolutskaya, A.K., Vorobyeva I.I., Krasheninnikov E.E., Rachkova E.V., Shiyan I.B., Shiyan O.A. Structural dialectical approach in psychology: problems and research results. *Psychology in Russia: State of the Art,* 2013, vol. 6, no. 2, pp. 65—77. DOI:10.11621/pir.2013.0206

perspectives from attachment and family systems theory // Child development perspectives. 2018. № 12. P. 269—269.

27. *Scherer K.R., Ekman P.* Approaches to Emotion. Psychology Press, 2017. P. 197—205.

28. *Storbeck J., Clore G.L.* On the interdependence of cognition and emotion // Cognition and Emotion. 2007. Vol. 21. P. 1212—1237. DOI:10.1080/02699930701438020

29. *Veraksa N.E., Belolutskaya A.K., Vorobyeva I.I., Krasheninnikov E.E., Rachkova E.V., Shiyan I.B., Shiyan O.A.* Structural dialectical approach in psychology: problems and research results // Psychology in Russia: State of the Art. 2013. № 6. P. 65—77. DOI:10.11621/pir.2013.0206

Information about the authors
Nikolay E.Veraksa, PhD in Psychology, Dr., Professor Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/0000-0003-3752-7319, e-mail: neveraksa@gmail.com

Zlata V. Airapetyan, Junior researcher Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/0000-0002-4466-9799, e-mail: zlata.a.v@yandex.ru

Margarita N. Gavrilova, PhD in Psychology, Junior researcher Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/0000-0002-8458-5266, e-mail: gavrilovamrg@gmail.com

Kristina S. Tarasova, PhD in Psychology, Scientific Researcher Lomonosov Moscow State University, Moscow, Russia, e-mail: christinap@bk.ru

Информация об авторах
Веракса Николай Евгеньевич, доктор психологических наук, профессор факультета психологии кафедры психологии образования и педагогики, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0003-3752-7319, e-mail: neveraksa@gmail.com

Айрапетян Злата Валерьевна, мл. науч. сотрудник факультета психологии кафедры психологии образования и педагогики, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-4466-9799, e-mail: zlata.a.v@yandex.ru

Гаврилова Маргарита Николаевна, кандидат психологических наук, мл. науч. сотрудник факультета психологии кафедры психологии образования и педагогики, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-8458-5266, e-mail: gavrilovamrg@gmail.com

Тарасова Кристина Сергеевна, кандидат психологоческих наук, научный сотрудник факультета психологии кафедры психологии образования и педагогики, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация, e-mail: christinap@bk.ru

Children's Narratives as a Space for Manifestation and Way of Diagnostics of Creative Abilities of Senior Preschoolers

Olga A. Shiyan
Moscow City University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-3882-7965, e-mail: shiyanoa@mgpu.ru

Anastasiya A. Baranova
ANO DO "Early Childhood Educational Center "Volshebny Vozrast" ("A Magic Age"), Moscow, Russia
ORCID: https://orcid.org/0000-0003-1932-5318 e-mail: anastasiabaranova6783@gmail.com

This paper discusses the approbation of an assessment tool for the creative abilities of preschoolers — dialectical structures and symbolic images — on the basis of children's narratives. Fifty-seven preschoolers of 6—7 years old from two preschool groups in Moscow took part in the approbation of the "Three Stories" technique. The groups contrasted in the quality of education, The significance of differences between the classrooms was defined using ECERS-3 and CASRS (Creative Ability Support Rating Scale). We analyzed whether there is a connection between the success of creating narratives and the results of diagnosing dialectical thinking, symbolic realism of imagination and creativity. In the approbation of the "Three Stories" technique, significant correlations were revealed between successful use of dialectical structures in a story-making and the results of diagnostics of dialectical thinking. The latter was executed with two corresponding tools: "What can be simultaneously?" (p=0,01) and "Dialectical stories" (p=0,05). Both dialectical structures and symbolic images in children's narratives demonstrated significant differences in contrasting groups (p=0,05). This approbation substantiated the validity of the technique for the study of creative abilities on the ground of children's narratives. The study allows us to consider children's narratives in terms of their resource for understanding and diagnosing (and, in the future, developing) the creative abilities of preschoolers.

Keywords: creative abilities of preschoolers, narrative, dialectical thinking, symbol, diagnostics of creative abilities.

Детские нарративы как пространство проявления и способ диагностики творческих способностей старших дошкольников

О.А. Шиян
Московский городской педагогический университет (ГАОУ ВО МГПУ), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-3882-7965, e-mail: shiyanoa@mgpu.ru

А.А. Баранова
АНО ДО «Центр раннего развития "Волшебный возраст"», г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0003-1932-5318 e-mail: anastasiabaranova6783@gmail.com

Статья посвящена апробации инструмента оценки творческих способностей дошкольников — диалектических структур и символических образов — на материале детских нарративов. В апробации методики «Три истории» приняли участие 57 дошкольников 6—7 лет из двух дошкольных групп г. Мо-

сквы, контрастных по качеству образования. Значимость различий между группами была установлена с использованием шкал ECERS-3 и PTC («Развитие творческих способностей»). Успешность создания нарративов соотносилась с результатами диагностики диалектического мышления, символического реализма воображения и креативности. В ходе апробации методики «Три истории» были получены значимые корреляции между успешностью использования диалектических структур при сочинении историй с результатами диагностики диалектического мышления при помощи методик «Что может быть одновременно» (значимость на уровне 0,01) и «Диалектические истории» (значимость на уровне 0,05). И по диалектическим структурам, и по символическим образам в детских нарративах были обнаружены значимые различия между контрастными группами (значимость на уровне 0,05). В ходе апробации обоснована валидность методики для исследования творческих способностей на материале детских нарративов. Исследование позволяет рассмотреть детские нарративы с точки зрения их ресурсности для понимания и диагностики (а в перспективе и развития) творческих способностей дошкольников.

Ключевые слова: творческие способности дошкольников, нарратив, диалектическое мышление, символ, диагностика творческих способностей.

Introduction

The problem of creativity in children, outlined as early as in the works by L.S. Vygotsky, becomes more front and centre these days. The idea of nonlinearity of human development, and of that enormous potential originating in the childhood but often left unfulfilled in the adult years, stimulates minds and entails new philosophic search and psychological research [12;27;29].

Both Russian and international psychologies consider children's narratives one of the spaces for the manifestation of children's creativity and possible way of diagnostics of creative abilities [21; 24; 25; 27; 29; 35; 53; 55; 56]. This study is discussing the approbation of an assessment tool for creative abilities on the basis of children's narratives. We followed L.S. Vygotsky's assumption that "cultural development doesn't create anything over and above that, which potentially exists in the natural development in the child's behaviour" [11, c. 8]. In other words, it is essential to find this special "seed" in children's activities that can further sprout and develop within the scope of amplifying educational practices.

Children's Narratives as a Way of Representation of Meanings and Emotions in Preschool Age

J. Bruner defines narrative as a story that includes a description of sequences of events, and an evaluation of these events. Moreover, this story is told from a personal perspective [6]. J. Piaget understood play and drawing as a manifestation of a general symbolic function that allowed the child to demonstrate his/her reaction to his/her impressions, and "to assimilate the reality into "Self"

without enforcement or sanctions" [21, p. 46]. L.S. Vygotsky and other authors emphasized the syncretism of children's activities and the development of written speech from the common root of drawing, painting, and play [9; 24; 33]. However, it seems reasonable to consider senior preschoolers' narratives as a separate study subject, because by the end of the preschool childhood, "story-making" stands out from the play, including the children themselves. One can see the independent value of children's narratives especially clear when adults create special conditions for all kind of narration practices, where the positions of the narrator/creator and the listener are accentuated [5;20]. Researchers note the importance of stories as a cultural way to comprehend the world, oneself in the world and pass on the experience of one's experiences to another [23]. M.V. Osorina makes an interesting observation: a child in his/her drawings places him/herself (directly or through some symbolic image) in the centre of events, therefore, dominating the situation and constructing his/her own subjective line in it [20].

All this confirms that a valid diagnostic tool for creative abilities should model a situation where the child would express his/her emotions and meanings through narratives.

Assessment Parameters for Children's Creativity in Respect to Narratives: Symbolization and Dialectical Thinking

The following techniques are worth mentioning within the scope of foreign research of children's creativity: P.A. Alexander's technique [27], creative storytelling [29], and MacArthur Story Stem Battery that was

initially aimed at the diagnostics of children's emotional reactions, and was later modified for creativity diagnostics C.M. Mottweiler и M. Taylor [33]. All these tools imply that an adult creates a problem situation (reading it out loud or playing it out with dolls), and a child has to complete the story. In all the cases, the parameters to be evaluated are similar to the ones used in the Torrance test: creativity (the number of appropriate continuations of the story), imagination (the number of continuations that go beyond the picture), novelty (the extent of uniqueness of the stories), and attractiveness (if a story is interesting to read).

However, novelty as a purely quantitative criterion of creativity assessment has been rightfully criticized in multiple works [4; 24]. Our study was based on a different approach: the foundation for the analysis of children's creativity was formed by various forms of mediation. Specifically, by symbolic images and dialectical structures.

The symbol, as noted by A.F. Losev, allows indirectly — through another object — to express the meaning of the phenomenon [16], and the symbol is not "taken" from reality, but is experienced and generated [7]. A.A. Melik-Pashaev notes that the "children's animism is a pre-artistic prerequisite for an aesthetic attitude" [18], that is, the spiritualized images of objects and phenomena that are so common in children make children's works related to art. In the works of O.M. Dyachenko, A.A. Melik-Pashayev, V.V. Brofman, V.T. Kudryavtsev devoted to the use of a symbol as a means of creativity, the emphasis is placed on various psychological aspects of the "work of a symbol": on a holistic aesthetic position — the readiness to see its meaning in an object or to project the meaning on the object [14; 18], on the ability to be in touch with one's own emotions [5], on the ability to discover new aspects of the object in a new context, not to be limited by the plane of the visible [12].

The concept of dialectical thinking, in comparison with the creativity concept of J. Guilford and E. Torrance, describes not the quantitative side of creative thinking, but the qualitative one. In other words, creative thinking is based on dialectical logic, instead of formal [3; 8]. Therefore, while formal logical thinking is governed by the laws of non-contradiction and excluded middle, dialectical thinking is capable of solving contradictory situations and reflecting the processes of development and transition. Research works by N.E. Veraksa, A.K. Belolutskaya, E.E. Krashaninnikov, I.B. Shiyan, and O.A. Shiyan demonstrated that dialectical thinking is something preschoolers actually have, and it is an independent developmental line, different from formal logical thinking described by J. Piaget [2;13;26]. Dialectical thinking allows reflecting the world in its dynamic, seeing the frontiers of the transformation of ob-

jects, and building an "inverse world". This is what helps the child understand the essence of the reality (it was L.S. Vygotsky who underlined the significance of the "inversions" for children's understanding of the world in "The psychology of art"), and resolve contradictory, paradoxical situations. Dialectical thinking is what associates the way of thinking of a preschooler who hasn't mastered formal logical laws, yet, with the thinking of scientists that find themselves facing limitary paradoxes in their attempts to explain the world (for instance, take the statement that light is both a wave and a particle).

N.E. Veraksa and O.M. Dyachenko indicated that in preschool age, children can operate three types of means for familiarization with this reality: symbolic, transforming, and normative. This assumption can be illustrated by the phenomenon of anticipation appearing when children retell a fairy tale [7]. In order to confirm that symbolic means and dialectical thinking can be used by children in their narratives, we held a pilot study that analysed the so-called "children's free narratives". These stories were created in kindergartens with a long tradition of writing down, discussing, and even playing out such narratives. 1312 narratives were written down in individual notebooks (one for each child), and qualitative analysis of this data revealed that the stories contained both symbols and dialectical thinking "moves". It means that symbolization and operating with the opposites are intrinsic for children's narratives.

"Three Stories", a Diagnostic Tool for Creative Abilities in Preschoolers

We set the task of elaborating a diagnostic tool that could be tested in different educational environments. The analysis of theoretical sources, as well as a qualitative analysis of "free" narratives, made it possible to determine the requirements for it. First, it was important to create a situation that would evoke an emotional reaction that would make sense for the child. Secondly, the situation, in order to provoke a creative solution, must contain an intellectual "challenge", an embarrassment. L.S. Vygotsky notes that "the desire for creativity is always inversely proportional to the simplicity of the environment" [10, p.35]. Thirdly, the task should be open, leaving the child space of freedom.

The "Three Stories" technique includes the following subtests: "Fire", "Scary — Not Scary" and "Funny Story". In all three cases, the children were asked to draw a story at first, and then the adult wrote it down under the dictation of the child, since children most often create a text both visual and verbal. When performing the "Fire" subtest, a contradictory situation was created in the discussion in a small group — the children actively

discussed whether fire is dangerous or useful, then they were individually asked to compose a "tale about fire". In the second subtest, children were asked to tell a story "about someone scary, but the story was not scary". It was assumed that the creative move could manifest itself in the ways in which the scary character would be "neutralized" in the story. In the third subtest ("Funny Story"), the child was asked to make up a story to make a girl laugh who no one can make laugh. Creating this subtest, we were based on the data of numerous studies, which testify to the importance of the phenomenon of funny for culture in general and for child development in particular [1;22;23;28;32].

The Key to the Analysis of Manifestations of Creativity in Children's Narratives ("Three Stories" Technique)

All the stories were analysed from the perspective of two components of creative abilities, i.e. the presence of symbolic images and dialectical transformations in them.

Symbolic image as a reflection of creative abilities in children's narratives. We registered the presence of a symbolic image in the story, if there was an animated object acting in accordance with the logic of the image, and bearing the author's evaluation; or if the character was described not only from exterior, but also from the perspective of his/her internal emotions. In the scope of the analysis of children's narratives we considered the actions of the character be "in accordance with the logic of the image" only if emotional details served for the deployment of the image of the character. Here is an example of such a symbolic image: (Luka, 7 years old): "This is fire. And it can't kindle itself! So, they kicked it out of the house. And out of revenge, he managed to set the house on fire. That's it!" In this case, the fire as the protagonist behaves exactly as a fire should. We can see a full and true deployment of the image in the style of H.C. Andersen's fairy tales. In those stories, all characters, starting from a darning needle, and finishing with a pan, express human passions, and act in accordance with the logic of emotional characteristics of the object.

Dialectical thinking as manifestation of creative abilities in children's narratives.

Dialectical structures appear in the stories as the opposites and their interactions of all kinds: transformations, integrations, and mediations. We identified a separate "Transformation" parameter for the purpose of the evaluation of manifestations of dialectical thinking in children's narratives. Points were assigned for the appearance of contrapositions in the text (because it's already a sign of retaining of the opposites), for trans-

formations (for example, when bad fire turns into a good one; conventional relationship gets inverse), and for the introduction of ambivalent characters.

All suggested tasks imply an opportunity to operate with the opposites, at this or that extent. For instance, in the analysis of "Fire" subtest we checked if the child succeeded in retaining the ambivalent nature of the fire. In the "Scary/Not Scary" subtest, we looked for the transformation of a scary thing into not scary, or for the introduction of an ambivalent character (a scary character behaving in a funny way, performing good deeds, or appearing as a small one). In the evaluation of "A Funny Story" subtest two categories of transforming answers were distinguished: "Mismatch of expectations" and "Transformations". The former was registered when a character or an object behaved in a non-standard way (all kind of falls, absurd situations, exaggerations). "Transformation" meant a creation of an inverse situation, where the central relationship wasn't just different; it was the opposite to the "standard" one.

Here is an example of dialectical structures me met in the stories. "Fire" subtest (Stepan, 7 years old): "Volcanos can be useful. Say, there is a volcano, but the population can be saved from it. If we drill channels in the spots where lava accumulates, we can redirect lava flows away from the city. We can direct them into the river, if water forms and obstacle. When water and magma mix together, magma will solidify and turn into stone. Then cars can drive on this "concrete". Or we could direct lava to some dry spring. As soon as it starts to rain, it will also turn into concrete. The end!" The child took a dangerous object (a volcano) and created a situation where it could actually be beneficious. The story also contained a fusion of two opposite substances, and appearance of the third one.

It's important to note, that despite apparent ingenuousness of dialectical transformations, we didn't meet them in the children's stories too often. Speculating on the fire, the majority characterized only one facet of it (mostly described it as something dangerous). Or, in the "Scary/Not Scary" subtest, the character still remained scary (as one boy frankly said, "There is nothing I can do about it"), and a funny story turned out to be a story ***about*** something funny, for example, a clown. The events, though, were not funny at all.

The structuredness of the narratives was examined as a separate parameter. We applied a well-approbated approach by W. Labov and J. Waletzky that is normally used for the analysis of children's narratives. It evaluates the proximity of the story to a high point one, i.e. if it has an opening, a high point, and a climax [57]. Moreover, for the evaluation of the full-fledged stories, we also took into account the appearance of additional characters or events, and used V.Y. Propp's analysis.

Approbation Design

Our goal was to analyse the correlation of the results of our diagnostics of creative abilities through narratives, with the results of already existing assessment techniques for creativity in children. For this purpose,, we selected a number of diagnostic tools matching our parameters of the evaluation of children's narratives, to the maximum.

Firstly, we analysed the relationship of the transformations in the narratives: "What can be simultaneously?" [8], and "Dialectical Stories" (I.B. Shiyan [526]). Then we matched different aspects of children's creativity with the "symbolic realism of imagination" ("Ink-bottle" technique by V.T. Kudryavtsev [14]). Thirdly, we matched the manifestations of different aspects of children's creativity with the performance in figurative subtest of Torrance test. The latter assesses the ability to complete a detail to create a new whole, and is often used for the diagnostics of children's imagination.

We assumed that the validity of our technique could prove itself through its capacity to reveal significant differences between children from the groups, contrasting in the parameter of quality of education. All calculations were carried out at a significance level of 0,05.

Sample. Senior preschool groups from two Moscow schools were selected for the study. These institutions followed different educational programs. 28 children from one school, and 29 from another, took part in the project. External expert evaluation was performed in the groups by the specialists from the Laboratory of the Child Development, Research Institute of System Projects, Moscow City University of Education). Two tools were used: ECERS-3 and CASRS (Creative Ability Support Rating Scale). The first one allows the assessment of educational environment (such as the equipment, materials, child-adult interaction, amount of time dedicated for free play, the conditions for the development of speech and thinking, and so on) and is focused on the support of children's independency. It also covers children's interests and needs. The second tool was developed by the Laboratory as an extension of the above mentioned scales specifically for the evaluation of the conditions for the development of creative abilities [2].

The score difference was calculated by means of T-Student test and came out to be significant (p=0,004). CAD scale score also demonstrated significant difference (p=0,008 for T-student test; p=0,015 for Sample Wilcoxon rank sum test). The comparison of educational programs revealed that the kindergartens that obtained higher score in external evaluation practiced writing down children's narratives, as it was mentioned earlier. Moreover, no conventional classes for speech development were scheduled there; favourable condi-

tions for such development were created in the scope of multiple event-based workshops. The second kindergarten that participated in the study didn't have this tradition, and children's narratives were not registered at all. Instead, they had conventional speech development classes (under V.V. Gerbova's program). Thus, the results of the quantitative and qualitative analysis allowed categorizing the groups that participated in the study as contrasting, by the parameter of the quality of education in general, and more specifically, of the conditions for the development of creative abilities. Further we will refer to the group with lower quality of education as Group 1, and to the more advanced group, as Group 2.

Results

Discriminatory power of "Three Stories" technique. We analysed the discriminatory power of the new tool "Three Stories" by defining Ferguson's δ for our sample by each parameter. The value of δ was high for "Symbolization" (0,86), "Transformation" (0,95), and "Narrative Structure" parameter (0,96). It proves that this tool can assess a sample differentially, and distinguish the extent of representativity of a certain quality in the respondents.

The correlation analysis revealed a significant correlation between such parameters of narratives as symbolization and dialectical thinking (see Table 1).

Herewith, no significant correlations were registered for "Narrative Structure" parameter and "Symbolization" or "Transformations". It only confirms our assumption that symbolization and dialectical thinking belong to the same cluster of creative abilities, comparing to the narrative structure which rather characterizes the mastering of a cultural norm.

Figure 1 represents the diagram of results of children's narratives assessment in contrasting groups, by individual parameters: "Symbolization", "Transformation", and "Narrative Structure". One can notice that in respect to the use of symbol and transformations (i.e. "Creative abilities" cluster), the group with a higher education quality was ahead of the less advanced group. Interestingly, when it comes to "Narrative Structure", the situation is reverse; yet, the difference was significant as well.

The relatively small sample size makes it undesirable to use the Student's t-test to test for the significance of differences, so we limited ourselves to using the Two Sample Wilcoxon rank sum test. Differences are significant for all parameters of narrative assessment: for the "Symbolization" parameter according to the Two Sample Wilcoxon rank sum test at p-value 0,032; for the "Transformation" parameter according to Two Sample Wilcoxon rank sum test at P-value 0,029; according to the

Table 1

Relationship of Parameters in "Three Stories" Technique

Parameters	Pearson correlation coefficient	P-value	Spearman correlation coefficient	P-value	Nature of relationship
"Symbolization" and "Transformation"	0,54	0,000013	0,55	0,000011	Significant at the level of 0,01
"Symbolization" and "Narrative Structure"	0,18	0,190544	0,15	0,26555	Not significant
"Transformation" and "Narrative Structure"	0,11	0,423077	0,08	0,565114	Not significant
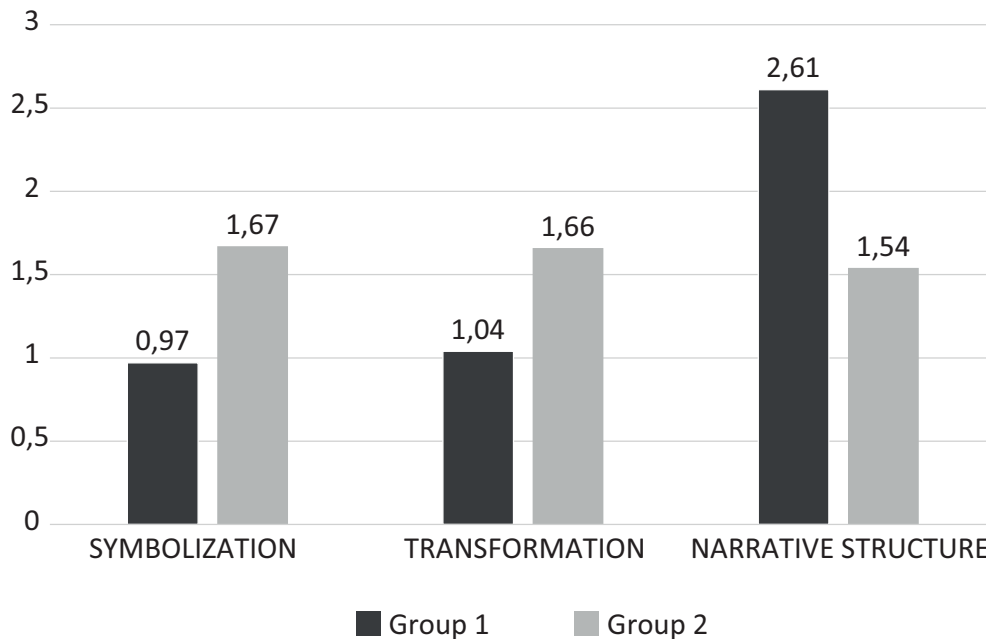
Fig. 1. Average score comparison for Group 1 and 2 by three parameters of "Three Stories" technique

"Narrative Structure" parameter according to the Two Sample Wilcoxon rank sum test with P-value 0,00001.

Significant correlations were found in the "transformation" parameter in narratives with the results of methods diagnosing dialectical thinking: "What can be at the same time?" (Pearson's coefficient of cor. 0,38, p-value 0,0036; Spearman's coefficient of cor. 0,41, p-value 0,0016) and "Dialectical Stories" (Pearson's coefficient 0,3, p-value 0,0292; Spearman's coefficient 0,41, p-value 0,0016).

The relationship between the results of the "Three Stories" methodology in terms of "Symbolization" and "Narrative Structure" parameters with the results of diagnosing dialectical thinking is not significant. This is consistent with the results of a previous study, in which the structure of narratives also did not correlate with the results of diagnosing dialectical thinking [25].

Also, there was no significant correlation between the results of performing the technique that diagnoses the "symbolic realism of the imagination" ("Inkwell" by V.T. Kudryavtsev), and such a parameter as "Symbolization" in the "Three Stories" technique.

The general results of the figure subtest of the E. Torrance test correlate only with such a parameter of children's stories as "Narrative structure" (Pearson's coefficient 0,38, p-value 0,004; Spearman's coefficient 0,41, p-value 0.002, significance at the 0,01 level). At the same time, the "Narrative Structure" parameter of the "Three Stories" methodology significantly correlates not only with the total score of the Torrens test, but also with its individual parameters —"Originality", "Flexibility" and "Elaboration".

Discussion

We found that in the narratives created during the "Three Stories" *technique*, all three types of means of reflecting reality are detected: symbolic, transformative, and normative. This suggests that when writing stories, children are involved both affectively and intellectually.

A significant relationship between such parameters of the "Three Stories" *technique* as "symbolization" and "transformations" allows us to raise the question of the

role of a symbol in reflecting transitivity and uncertainty. This may mean that the symbol allows you to express meanings where there are no ready-made models (which was pointed out, in particular, by A.F. Losev [16]). The fact that these two parameters, while correlating with each other, do not correlate with the structure of the created story, suggests that, firstly, creative abilities stand out in a cluster separate from the normative one, and secondly, within this cluster there are two qualitatively different component — symbolic and sign. This fact is consistent with the semiotic studies of Y.M. Lotman, who spoke about the bipolar structure of cultural phenomena [17].

We found that in kindergarten, where the educational environment is more focused on supporting children's initiative and creativity, symbolic and transformative means are found in the narratives significantly more often, which indicates the ability of the "Three Stories" *technique* to distinguish the educational results of children studying in qualitative terms. various educational programs. At the same time, the fact that in a kindergarten with a higher quality of the environment, children were significantly less likely to create a well-structured detailed narrative requires a separate analysis. It can be assumed that a higher score on the "structured story" is sometimes associated not so much with mastering the cultural norm of writing stories, but with the assimilation of some "narrative template".

The results of the "Three stories" *technique* in terms of the "transformation" parameter (the reflection of opposites and their mutual transitions, transformations, ambivalent characters, etc.) correlate with the results of the methods that diagnose dialectical thinking ("What can be at the same time" and "Dialectical stories"), which allows us to speak about the validity of the "Three Stories" for diagnosing dialectical thinking. At the same time, unlike the listed tools, the "Three Stories" *technique* allows to identify the use of all three types of tools, which makes it more environmentally valid.

At the same time, the absence of significant correlations of symbolization in narratives with the results of diagnosing the phenomenon of "symbolic realism of the imagination", described by V.T. Kudryavtsev, allows us to conclude that the creation of an artistic symbolic image within the narrative is governed by different rules than a production of an image while solving a problem.

The study found no correlations between the figurative subtest of the E. Torrens test and the parameters that we attributed to creative abilities — with dialectical transformations and symbolizations in the children's stories; this fact, from our point of view, is explained by the qualitative difference between the forms of mediation, which were the subject of our study, and the understanding of the phenomenon of creativity, which underlies the methodology of E. Torrens. The presence of a correlation between the results of the figurative subtest of the E. Torrance test and the "Narrative structure" parameter suggests that the construction of a coherent logical text requires the ability to correlate individual elements of the text (outset, climax, denouement) and its holistic intention, as in the Torrance test, it is necessary to be able to see the original element in the context of the new integer. These results provide grounds for further research into the psychological mechanisms of creating a classical narrative structure.

Conclusions

The result of testing the "Three Stories" technique showed that children are really involved in the storytelling process with a high level of motivation, which allows us to count on the organicity of the simulated situation and on the relevance of narratives for diagnosing children's creativity.

Despite the fact that the importance of children's stories and drawings for the development of writing as a cultural practice in the future has been repeatedly noted by researchers (see: L.S. Vygotsky [9], A.M. Lobok on the birth of writing from the practice of communication [15]), Today, within the framework of the "speech development classes", on the one hand, children's stories that arise inside the director's and role-playing game and together with the drawing are ignored, and on the other hand, the emphasis is placed primarily on the structure of the narrative, but not on its creative aspects. Such ignoring can be, in particular, one of the reasons for the difficulties that arise when mastering written speech with the creation of an author's statement, which researchers talk about [9;19].

The important idea for cultural-historical psychology, that childhood is resourceful for the development of creativity, is relevant not only for building modern educational practices but also for understanding the "ideal forms" of creativity.

| *References* | *Литература* |

1.   Artem'eva T.V. Yumor detei: soderzhanie konstrukta i metodika ego otsenki [Humor of children: the content of the

1.   *Артемьева Т.В.* Юмор детей: содержание конструкта и методика его оценки // Современное дошкольное

construct and the methodology of its assessment]. *Sovremennoe doshkol'noe obrazovanie* [*Modern preschool education*], 2021. Vol. 3, no. 105, pp. 46—59. DOI:10.24412/1997-9657-2021-3105-46-59. (In Russ.).

2. Belolutskaya A.K., Vorob'eva I.I., Shiyan O.A., Zadadaev S.A., Shiyan I.B. Usloviya dlya razvitiya tvorcheskikh sposobnostei rebenka: rezul'taty aprobatsii instrumenta otsenki kachestva obrazovaniya v detskom sadu [Conditions for the development of creative abilities of a child: the results of testing the tool for assessing the quality of education in kindergarten]. *Sovremennoe doshkol'noe obrazovanie* [*Modern preschool education*], 2021. Vol. 2, no. 104, pp. 12—30. DOI:10.24411/1997-9657-2021-10096. (In Russ.).

3. Besseches M. Dialekticheskoe myshlenie i razvitie vzroslykh [Dialectical thinking and adult development]. Moscow: Mosaic-Synthesis, Moscow City University Publ., 2018. 566 p. (In Russ.).

4. Bogoyavlenskaya D.B. Kul'turno-istoricheskii podkhod k problematike tvorchestva [A Cultural-Historical Approach to the Range of Creativity Problems]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2007. Vol. 3, no. 3, pp. 67—71. (In Russ.).

5. Brofman V.V. Razvitie detskikh vidov deyatel'nosti [Development of children's activities]. In Deyatel'nostnyi podkhod v obrazovanii: Monografiya. Kniga 2 [The activity approach in education: A monograph. Book 2]. Comp. V.A. L'vovskii. Moscow: Non-profit partnership "Author's Club", 2019. Pp. 71—108. (In Russ.).

6. Bruner Dzh. Kul'tura obrazovaniya [Culture of education]. Moscow: Prosveshchenie, 2006. 223 p. (In Russ.).

7. Veraksa N.E., D'yachenko O.M. Elementy "karnaval'noi kul'tury" v razvitii rebenka-doshkol'nika [Elements of "carnival culture" in the development of a preschool child]. *Voprosy psichologii* [*Voprosy Psychologii*], 1994, no. 2, pp. 77—87. (In Russ.).

8. Veraksa N.E. Dialekticheskoe myshlenie [Dialectical thinking]. Ufa: Vagant, 2006. 212 p. (In Russ.).

9. Vygotskii L.S. Istoriya razvitiya vysshikh psikhicheskikh funktsii [History of the development of higher mental functions]. In Sobranie sochinenii: V 6 t. [Collected works: In 6 vols.]. Vol. 3. Moscow: Pedagogika, 1984. Pp. 244—268. (In Russ.).

10. Vygotskii L.S. Voobrazhenie i tvorchestvo v detskom vozraste [Imagination and creativity in childhood]. Saint-Petersburg: Perspektiva, 2020. 125 p. (In Russ.).

11. Vygotskii L.S. Problema kul'turnogo razvitiya rebenka (1928) [The problem of the cultural development of the child (1928)]. *Vestnik Mosk. un-ta. Ser. 14, Psikhologiya* [*Bulletin of the Moscow University. Series 14, Psychology*], 1991, no. 4, pp. 5—18. (In Russ.).

12. D'yachenko O.M. Puti aktivizatsii voobrazheniya doshkol'nikov [Ways to activate the imagination of preschoolers]. *Voprosy psichologii* [*Voprosy Psychologii*], 1987, no. 1, pp. 44—51. (In Russ.).

13. Krasheninnikov E.E. Voprosy dialekticheskoi psikhologii: kurs lektsii [Questions of dialectical psychology: a course of lectures]. Moscow: MGPU Publ., 2017. 156 p. (In Russ.).

14. Kudryavtsev V.T. Kreativnyi potentsial rebenka. Opyt postroeniya teoretiko-eksperimental'noi modeli [The creative potential of the child. Experience in constructing a theoretical and experimental model]. 2004. Available at: https://tovievich.ru/book/voobragenie/5543-kreativniy-potentsial-rebenka-opit-postroeniya-teoretikoeksperimentalnoy-modeli-ii.html (Accessed 08.07.2021). (In Russ.).

15. Lobok A.M. Dialog s L.S. Vygotskim po povodu pis'mennoĭ rechi [A dialogue with L. S. Vygotsky about writing

об/образование. 2021. № 3(105). С. 46—59. DOI:10.24412/1997-9657-2021-3105-46-59

2. *Белолуцкая А.К., Воробьева И.И., Шиян О.А., Зададаев С.А., Шиян И.Б.* Условия для развития творческих способностей ребенка: результаты апробации инструмента оценки качества образования в детском саду // Современное дошкольное образование. 2021. № 2(104). С. 12—30. DOI:10.24411/1997-9657-2021-10096

3. *Бессечес М.* Диалектическое мышление и развитие взрослых. М.: Мозаика-Синтез, Московский городской ун-т, 2018. 566 с.

4. *Богоявленская Д.Б.* Культурно-исторический подход к проблематике творчества // Культурно-историческая психология. 2007. Том 3. № 3. С. 67—71.

5. *Брофман В.В.* Развитие детских видов деятельности // Деятельностный подход в образовании: монография. Книга 2 / Сост. В.А. Львовский. М.: Некоммерческое партнерство «Авторский клуб», 2019. С. 71—108.

6. *Брунер Дж.* Культура образования. М.: Просвещение, 2006. 223 с.

7. *Веракса Н.Е., Дьяченко О.М.* Элементы «карнавальной культуры» в развитии ребенка-дошкольника // Вопросы психологии. 1994. № 2. С. 77—87.

8. *Веракса Н.Е.* Диалектическое мышление. Уфа: Вагант, 2006. 212 с.

9. *Выготский Л.С.* История развития высших психических функций // Собрание сочинений: в 6 т. Т. 3. М.: Педагогика, 1984. С. 244—268.

10. *Выготский Л.С.* Воображение и творчество в детском возрасте. СПб.: Перспектива, 2020. 125 с.

11. *Выготский Л.С.* Проблема культурного развития ребенка (1928) // Вестник Моск. ун-та. Сер. 14, Психология. 1991. № 4. С. 5—18.

12. *Дьяченко О.М.* Пути активизации воображения дошкольников // Вопросы психологии. 1987. № 1. С. 44—51.

13. *Крашенинников Е.Е.* Вопросы диалектической психологии: курс лекций. М.: МГПУ, 2017. 156 с.

14. *Кудрявцев В.Т.* Креативный потенциал ребенка. Опыт построения теоретико-экспериментальной модели [Электронный ресурс]. 2004. URL: https://tovievich.ru/book/voobragenie/5543-kreativniy-potentsial-rebenka-opit-postroeniya-teoretikoeksperimentalnoy-modeli-ii.html (дата обращения: 08.07.2021).

15. *Лобок А.М.* Диалог с Л.С. Выготским по поводу письменной речи // Вопросы психологии. 1996. № 6. С. 41—53.

16. *Лосев А.Ф.* Философия. Мифология. Культура. М.: Политиздат, 1991. 525 с.

17. *Лотман Ю.М.* Избранные статьи: в 3 т. Т. 1: Статьи по семиотике и топологии культуры. Таллин: Александра, 1992. 479 с.

18. *Мелик-Пашаев А.А.* Художественная одаренность как возрастное явление [Электронный ресурс] // Теоретическая и экспериментальная психология. 2012. № 2. URL: https://cyberleninka.ru/article/n/hudozhestvennaya-odarennost-kak-vozrastnoe-yavlenie (дата обращения: 08.07.2021).

19. *Новлянская З.Н.* О словесном творчестве дошкольников // Искусство в школе. 2019. № 1. С. 14—19.

20. *Осорина М.В.* Рисованные истории в изобразительном творчестве детей и их зрительском опыте // Русский комикс. М.: Новое литературное обозрение, 2010. С. 107—170.

21. *Пиаже Ж., Инхельдер Б.* Психология ребенка. СПб.: Питер, 2003. 160 с.

speech]. *Voprosy psichologii* [*Voprosy Psychologii*], 1996, no. 6, pp. 41—53. (In Russ.).

16. Losev A.F. Filosofiya. Mifologiya. Kul'tura [Philosophy. Mythology. Culture]. Moscow: Politizdat, 1991. 525 p. (In Russ.).

17. Lotman Yu.M. Izbrannye stat'I [Selected articles]: V 3 t. T. 1: Stat'i po semiotike i topologii kul'tury [Articles on semiotics and topology of culture]. Tallin: Aleksandra, 1992. 479 p.

18. Melik-Pashaev A.A. Khudozhestvennaya odarennost' kak vozrastnoe yavlenie [Artistic talent as an age-related phenomenon]. *Teoreticheskaya i eksperimental'naya psikhologiya* [*Theoretical and experimental psychology*], 2012, no. 2. Available at: https://cyberleninka.ru/article/n/hudozhestvennaya-odarennost-kak-vozrastnoe-yavlenie (Accessed 08.07.2021). (In Russ.).

19. Novlyanskaya Z.N. O slovesnom tvorchestve doshkol'nikov [About the verbal creativity of preschoolers]. *Iskusstvo v shkole* [*Art at school*], 2019, no. 1, pp. 14—19. (In Russ.).

20. Osorina M.V. Risovannye istorii v izobrazitel'nom tvorchestve detei i ikh zritel'skom opyte [Hand-drawn stories in the visual creativity of children and their spectator experience]. In Russkii komiks [Russian comics]. Moscow: Novoe literaturnoe obozrenie, 2010, pp. 107—170. (In Russ.).

21. Piazhe Zh., Inkhel'der B. Psikhologiya rebenka [Child psychology]. Saint-Petersburg: Piter, 2003. 160 p. (In Russ.).

22. Romanova A.L., Smirnova E.O. Smeshnoe i strashnoe v sovremennoi detskoi subkul'ture [Funny and Scary in Contemporary Children's Subculture]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2013. Vol. 9, no. 2, pp. 81—87. (In Russ.).

23. Singer E., de Khaan D. Igrat', udivlyat'sya, uznavat'. Teoriya razvitiya, vospitaniya i obucheniya detei [Play, be surprised, find out. Theory of development, education and training of children]. Moscow: Mosaic-Synthesis, 2019. 312 p. (In Russ.).

24. Trifonova E.V. Rezhisserskaya igra s oporoi na risunok kak metod otsenki poznavatel'nogo razvitiya rebenka doshkol'nogo vozrasta: Avtoref. dis. kand. psikhol. nauk [Director's game based on drawing as a method of assessing the cognitive development of a preschool child. Ph. D. (Psychology) Thesis]. Moscow, 2006. 27 p. (In Russ.).

25. Shiyan O.A. Detskie narrativy kak vozmozhnyi resurs razvitiya dialekticheskogo myshleniya starshikh doshkol'nikov [Children's narratives as a possible resource for the development of dialectical thinking of older preschoolers]. *Sovremennoe doshkol'noe obrazovanie* [*Modern preschool education*], 2018. Vol. 6, no. 88, pp.11—27. DOI:10.24411/1997-9657-2018-10021. (In Russ.).

26. Shiyan I.B. Predvoskhishchayushchii obraz v strukture dialekticheskogo myshleniya doshkol'nikov [Anticipatory image in the structure of dialectical thinking of preschoolers]. *Voprosy psichologii* [*Voprosy Psychologii*], 1999, no. 3, pp. 57—67. (In Russ.).

27. Alexander P.A., Jetton T.L., White S.H., Parsons J.L., Cotropia K.K., Liu H.-C., & Ackerman C.M. Young Children's Creative Solutions To Realistic and Fanciful Story Problems. *The Journal of Creative Behavior*, 1994. Vol. 28, no. 2, pp. 89—106. DOI:10.1002/j.2162-6057.1994.tb00723.x

28. Coates E. & Coates A. 'My Nose is Running Like a Pound of Butter': Exploring Young Children's Humour. *Early Child Development and Care*, 2020. Vol. 190, no. 13, pp. 2119—2133. DOI:10.1080/03004430.2018.1561443

29. Fehr K.K. & Russ S.W. Pretend Play and Creativity in Preschool-Age Children: Associations and Brief Intervention.

22. *Романова А.Л., Смирнова Е.О.* Смешное и страшное в современной детской субкультуре // Культурно-историческая психология. 2013. Том 9. № 2. С. 81—87.

23. *Сингер Э., де Хаан Д.* Играть, удивляться, узнавать. Теория развития, воспитания и обучения детей. М.: Мозаика-Синтез, 2019. 312 с.

24. *Трифонова Е.В.* Режиссерская игра с опорой на рисунок как метод оценки познавательного развития ребенка дошкольного возраста: автореф. дисс. ... канд. психол. наук. М., 2006. 27 с.

25. *Шиян О.А.* Детские нарративы как возможный ресурс развития диалектического мышления старших дошкольников // Современное дошкольное образование. 2018. № 6(88). С.11—27. DOI: 10.24411/1997-9657-2018-10021

26. *Шиян И.Б.* Предвосхищающий образ в структуре диалектического мышления дошкольников // Вопросы психологии. 1999. № 3. С. 57—67.

27. *Alexander P.A., Jetton T.L., White S.H., Parsons J.L., Cotropia K.K., Liu H.-C., & Ackerman C.M.* Young Children's Creative Solutions To Realistic and Fanciful Story Problems // The Journal of Creative Behavior. 1994. Vol. 28. № 2. P. 89—106. DOI:10.1002/j.2162-6057.1994.tb00723.x

28. *Coates E., Coates A.* 'My Nose is Running Like a Pound of Butter': Exploring Young Children's Humour // Early Child Development and Care. 2020. Vol. 190. № 13. P. 2119—2133. DOI:10.1080/03004430.2018.1561443

29. *Fehr K.K., Russ S.W.* Pretend Play and Creativity in Preschool-Age Children: Associations and Brief Intervention // Psychology of Aesthetics, Creativity, and the Arts. 2016. Vol. 10. № 3. P. 296—308. DOI:10.1037/aca0000054

30. *Labov W., Waletzky J.* Narrative analysis: Oral versions of personal experience // Essays on the Verbal and Visual Arts / J. Helm (Ed.). Seattle, London: University of Washington Press, 1967. P. 12—44.

31. *McCabe A., Rollins P.* Assessment of Preschool Narrative Skills // American Journal of Speech-Language Pathology. 1994. Vol. 3. P. 45—56.

32. *McGhee P.E.* Development of the humor response: A review of the literature // Psychological Bulletin. 1971. Vol. 76. № 5. P. 328—348. DOI:10.1037/h0031670

33. *Mottweiler C.M. & Taylor M.* Elaborated role play and creativity in preschool age children // Psychology of Aesthetics, Creativity, and the Arts. 2014. Vol. 8. № 3. P. 277—286. DOI:10.1037/a0036083

34. *Nicolopoulou A.* Young children's pretend play and storytelling as modes of narrative activity: From complementarity to cross-fertilization? // Children's Play, Pretense, and Story: Studies in Culture, Context, and Autism Spectrum Disorder / S. Douglas, L. Stirling (Eds.). New York; London: Routledge, 2016. P. 7—28.

Psychology of Aesthetics, Creativity, and the Arts, 2016. Vol. 10, no. 3, pp. 296—308. DOI:10.1037/aca0000054

30. Labov W. & Waletzky J. Narrative analysis: Oral versions of personal experience. In J. Helm (Ed.). *Essays on the Verbal and Visual Arts.* Seattle, London: University of Washington Press, 1967. Pp. 12—44.

31. McCabe A., Rollins P. Assessment of Preschool Narrative Skills. *American Journal of Speech-Language Pathology,* 1994. Vol. 3, pp. 45—56.

32. McGhee P.E. Development of the humor response: A review of the literature. *Psychological Bulletin,* 1971. Vol. 76, no. 5, pp. 328—348. DOI:10.1037/h0031670

33. *Mottweiler C.M. & Taylor M.* Elaborated role play and creativity in preschool age children // Psychology of Aesthetics, Creativity, and the Arts. 2014. Vol. 8, no. 3, pp. 277—286. DOI:10.1037/a0036083

34. Nicolopoulou A. Young children's pretend play and storytelling as modes of narrative activity: From complementarity to cross-fertilization? In S. Douglas & L. Stirling (Eds.). *Children's Play, Pretense, and Story: Studies in Culture, Context, and Autism Spectrum Disorder.* New York, London: Routledge, 2016. Pp. 7—28.

Information about the authors
Olga A. Shiyan, Candidate of Education Sciences, Associate Professor, Leading Research Fellow at the Laboratory of Child Development, Research Institute of Urban Studies and Global Education, Moscow City University, Moscow, Russia, ORCID: https://orcid.org/0000-0002-3882-7965, e-mail: shiyanoa@mgpu.ru

Anastasiya A. Baranova, ANO DO "Early childhood education center "Volshebny vozrast", Moscow, Russia, ORCID: https://orcid.org/0000-0003-1932-5318 e-mail: anastasiabaranova6783@gmail.com

Информация об авторах
Шиян Ольга Александровна, кандидат педагогических наук, доцент, ведущий научный сотрудник лаборатории развития ребенка НИИ урбанистики и глобального образования, Московский городской педагогический университет (ГАОУ ВО МГПУ), Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-3882-7965, e-mail: shiyanoa@mgpu.ru

Баранова Анастасия Александровна, АНО ДО «Волшебный возраст», г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0003-1932-5318 e-mail: anastasiabaranova6783@gmail.com

"Difficult Breathing": to the Problem of Overcoming the Natural in the Cultural

Elena V. Chudinova
PIRAO Institute named after Shukina L.V., Moscow, Russia
ORCID: https://orcid.org/0000-0002-3923-781X, E-mail: chudinova_e@mail.ru

Vera Ye. Zaytseva
GBOU "School No. 67", Moscow, Russia
e-mail: zaiceva@67sch.ru

The problem of transforming everyday concepts of a child into scientific concepts and their interaction posed by L.S. Vygotskii is still relevant. This article analyzes the transformation of the everyday concept of breathing and respiration to the scientific concept, starting with the ideas of a preschooler and up to the end of school age. The material of the experimental teaching within the framework of a five-year biology course for middle school is presented in comparison with the traditional introduction of the scientific concept. Teaching-learning processes are investigated as a series of mediation acts. Analysis of the students learning activity and their learning difficulties demonstrates the dynamics of conceptual changes. It is possible to see the relationship between the initial ('everyday') and the emerging scientific concept. Observations are analyzed from the point of view of Lev Vygotskii and his scientific school and other investigators also. The conditions for overcoming the 'encapsulation' of scientific concepts in human consciousness are discussed. The way of development and final appropriation of a scientific concept is shown. The nature of the transformation of an everyday concept in interaction with the scientific concept are discussed.

Keywords: everyday concepts, scientific concepts, learning activity, theoretical thinking, conceptual change, meaning.

«Трудное дыхание»: к вопросу о преодолении натурального в культурном

Е.В. Чудинова
Психологический институт РАО имени Л.В. Щукиной (ФГБНУ «ПИ РАО»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-3923-781X, e-mail: chudinova_e@mail.ru

В.Е. Зайцева
ГБОУ г. Москвы «Школа № 67», г. Москва, Российская Федерация
e-mail: zaiceva@67sch.ru

Поставленная Л.С. Выготским проблема преобразования житейских понятий в научные и взаимодействия между ними продолжает быть актуальной. В статье анализируется преобразование житейского понятия о дыхании в научное, начиная с представлений дошкольника и до конца школьного возраста. Представлен материал экспериментального формирования этого понятия в рамках курса биологии в основной школе в сравнении с традиционным введением понятия. Обучение рассматривается как серия актов опосредствования. Формирующий эксперимент позволяет наблюдать динамику понятийных изменений и рассматривать взаимосвязи исходного и становящегося понятия с точки зрения идей Л.С. Выготского, его учеников и последователей. Обсуждаются перипетии ста-

новления и окончательного присвоения научного понятия, взаимодействие житейского и научного понятий, условия преодоления «инкапсулированности» научных понятий в сознании человека

Ключевые слова: житейские понятия, научные понятия, учебная деятельность, теоретическое мышление, изменение понятий, значение.

Introduction

Overcoming the natural in the cultural is a cross-cutting theme of human mental development. Making the subject of the analysis the transition from spontaneous everyday concepts to non-spontaneous, scientific, i.e. concepts in the proper sense of the word, L.S. Vygotskii focuses on the mechanism of changes in thought processes during ontogenesis, on the one hand, and on the possibilities of the educational process as determining the course of development, on the other [2].

Today the transition from everyday concepts to scientific ones still stays an unfinished and urgent problem [6; 10; 16; 18]. This is due both to the tasks of studying the development of thinking and understanding, and to the increasing pedagogical difficulties in the formation of scientific concepts and the search for effective educational technologies.

The purpose of this study is to describe the path of formation of one of the nuclear biological concepts. We want to follow the transformation of worldly understanding in learning, to identify obstacles in the development of a scientific concept, to understand how and to what extent the worldly view is overcome, that is, to describe, in the words of Vygotskii, "...the path from the child's first encounter with a new concept to the moment when the word and concept are made the child's own" [2, p. 191], as well as to show the role of educational technology in this process. Describing the process of concept formation, we will correlate our observations with the ideas of L.S. Vygotskii and his followers.

Everyday and Scientific Concept of Respiration

The concept of respiration is a key concept in interaction with the basics of biology, since it connects the processes of obtaining and spending energy of the body, and can cause an appeal to the appearance, the mechanism for meaningful reading of texts.

According to the biological dictionary definition, respiration is "one of the main vital functions, a sum of processes providing the organism with oxygen, its use in oxidation-reduction processes, as well as the removal of carbon dioxide and some other compounds from the organism, which are the end products of metabolism"

[1]. This scientific definition captures the multi-stage process and hides the true essence of respiration as the transformation of energy behind the incomprehension of the majority of schoolchildren and the consequence of the phrase "its use in oxidation-reduction processes".

The everyday meaning of the word "respiration"/"breathing" is vague and bears traces of the study of a scientific concept influence. The dictionaries give the following definitions: this is the name of the air itself that comes out during exhalation and series of continuously alternating movements of inhalation and exhalation, also drawing in and out of air by the lungs, as well as absorption of oxygen and release of carbon dioxide by living organisms. These definitions are not only extremely diverse, but sometimes also erroneous. For instance, the lungs cannot "draw in" air since they are not equipped with muscle tissue providing movement.

The Evolution of the Concept '"Respiration" in Traditional School Education

Students know the words "breathing", "breathe" since childhood, however, as L.S. Vigotskii mentions "the formation of scientific concepts is not completed but only begins at the moment when the child learns the first meanings and terms" [2, p. 188]. According to some reports, important changes in the system of children's ideas about their body occur at primary school age. The processes of nutrition and respiration preschoolers consider at the level of their external manifestations. At primary school age these ideas change towards mechanistic explanations of the processes. A spontaneous "container" theory of the body is being formed: for each "substance" in the body a special container is needed: for example, air requires lungs [10].

However, the idea of the lungs cannot arise without examining the drawings of the human body internal structure, without adults calling this part of the body a certain word. In other words, the emergence of "container" representations is undoubtedly influenced by the content of children's encyclopedias or textbooks, which preschoolers already like to examine.

In elementary school the word "breathing" continues to be used in its everyday sense. Sometimes a teacher or textbook informs students about oxygen and carbon dioxide, but this knowledge is quite formal. "Spontaneous concept and its first inception are still connected with the

direct confrontation of the child with one or another ... real things ..." [4, p. 6], and air gases turn out to be much less real for the child than, for example, virtual heroes of games, because they are invisible, and the means of detecting their presence in the air (a burning torch and lime water) are not offered to elementary school students.

Probably, if education in elementary school was based on educational dialogues with the use of symbolic metaphors [18], this would contribute to the development of everyday concepts about respiration and create the basis for introducing the theoretical concept of respiration in secondary school. However, in the reality of modern mass education in Russia, the persistence of an elementary school teacher often leads to the formation of stable concepts, many of which are obvious delusions, for example: "a person inhales oxygen, but exhales carbon dioxide", "plants breathe on the contrary — they inhale carbon dioxide, and they breathe out oxygen". Elementary school teachers' mission becomes much more difficult than it would be if a) there was no word "breathing" in the everyday language, b) the elementary school did not have to face the problem of talking about the nutrition and respiration of plants.

A.N. Leontiev wrote that "in order to establish higher generalization, a concept, in a child's judgment, it is necessary to construct a system of psychological operations corresponding to this higher generalization; i.e., a change in the child's consciousness occurs as a result of a change in his intellectual activity as a system of psychological operations, determined by the underlying real attitude to reality, and not vice versa" [11, p. 348]. The research and project work of D.B. Elkonin, V.V. Davydov and their colleagues proved the effectiveness of organizing educational activities for the development of the theoretical thinking basis of schoolchildren [5; 7]. Despite this, the way of studying respiration in Russian mass school has not changed much since the time of Vygotskii: "the development *(development of concepts — Ed.)* of scientific concepts begins with the verbal definition..." [2, p. 186].

In traditional teaching the scientific concept of respiration is introduced in the botany course. Today in one of the most common botany textbooks for 6th grade, respiration is defined as "a complex process that occurs in the cells of a living organism. During this process, organic substances decompose into carbon dioxide and water. At the same time energy is released, which is used by the plant for vital processes..." [15, p. 107]. Further, the same way as Vygotskii describes, "this circle of knowledge is developed with the student, this knowledge is compared with other knowledge, various formulations of this knowledge are given..." [4, p. 5]. The process of respiration is compared with the process of photosynthesis that is already learned by the students, which is considered as its opposite.

This way of teaching fundamentally cannot lead to the formation of a scientific concept for the following reasons: 1) by this moment students have NO idea about chemical reactions (especially about oxidation-reduction reactions) 2) the process of photosynthesis is much more complicated than the process of respiration. The logic should be exactly the opposite.

Difficulties in the assimilation of biological key concepts occur in many studies not only in Russia, but also in other countries abroad [26; 27; 28; 29; 30]. It is noted that educational problems are associated with the difficulties of restructuring knowledge, determined by the context, activities, situations in which these concepts were assigned [6; 28; etc.]. It has been shown particularly that the concepts related to functioning and evolution (respiration, gene, mitosis, etc.) are mastered worse than "structural" concepts, such as, for instance, "cell", "organelle" [27; 30]. In our opinion, functional concepts are theoretical scientific concepts, the initial cell of which is a relation inaccessible to direct observation. Therefore, the ways of solving the problem proposed by researchers, such as enhanced visualization of the studied material, imitation games, including practical tasks cannot seriously increase the efficiency of their assimilation.

The starting point of our study was the development of the way to introduce key biological concepts in the basic school as theoretical and comparison of the effectiveness of this way with traditional teaching [9; 21; 22; 23].

In traditional education, the concept of respiration is not assimilated: at the first and second levels, according to the SAM method [13], not a single student out of 55 people in the control group could complete the task correctly. The experimental program training gave a more positive result: 41% of the students out of 160 people managed to solve the tasks of the 1st and 2nd levels.

These data allow us not to consider traditional education as a source of development of the scientific concept of respiration, and to focus on the description of the formation of this concept in the course "New Biology", developed in accordance with the theory of educational activity by D.B. Elkonin-V.V. Davydov. For the purposes of our study, it is also important that in such courses the process of assimilation of scientific concepts becomes observable, suggesting modeling and discussion forms of interaction.

These data allow us not to consider traditional teaching as a source of the development of the scientific concept of respiration any further and focus on the description of the process of this concept formation in the "New Biology" course, developed in accordance with the theory of educational activity by D.B. Elkonin and V.V. Davydov. For the purposes of our study, it is also important that the learning process in such courses becomes more observable and involves educational modeling and discussion forms of interaction.

The Logic of the Respiration Concept Formation in the Experimental Course

In the course "New Biology" the concept of respiration is constructed as one of the central developing concepts. It is possible to consider the subject line of this concept formation, sometimes coming to the fore in education

program, sometimes disappearing into the shadows, intertwining with the lines of development of other concepts. This is described in detail in other sources [22; 23], here we only highlight the main stages and key turns in learning.

1. The transition from the observable to the hidden (insight into the observed process)

At the first stage students discover the meaning of the respiration process as the only process in the body during which energy is released, which is then spent on other processes. (fig. 1). Most experiments on the study of life processes are carried out on themselves, also virtual experiments are used, i.e. there are no deficits in the figurative-semantic basis for the development of concepts, the danger of which V.V. Rubtsov warns about [17].

This period lasts three months. Students reformulate the definition of respiration several times, clarifying it. At the same time, they do not seem to notice that their under-standing has changed — the actual use of the word and the way "generalization appears for consciousness" do not coincide[1]. Apparently, in order for this conflict to be exposed, a special turn of events is needed, which becomes the content of the second stage. The result of the first stage is only the construction of supports for this radical conceptual change.

2. Modeling: linking functions and finding the place of respiration in this bunch

The turning point becomes a scheme created by the class that fixes the connectivity of the processes of respiration, nutrition, gas exchange and excretion (fig. 2). An essential feature of this scheme is the placement of the respiration process inside the body of a living being taken in an extremely abstract way. It is this step that makes the students see the need for oxygen and organic matter of food to be carried inside through the abstractly defined boundary of the body, "to where respiration takes place".
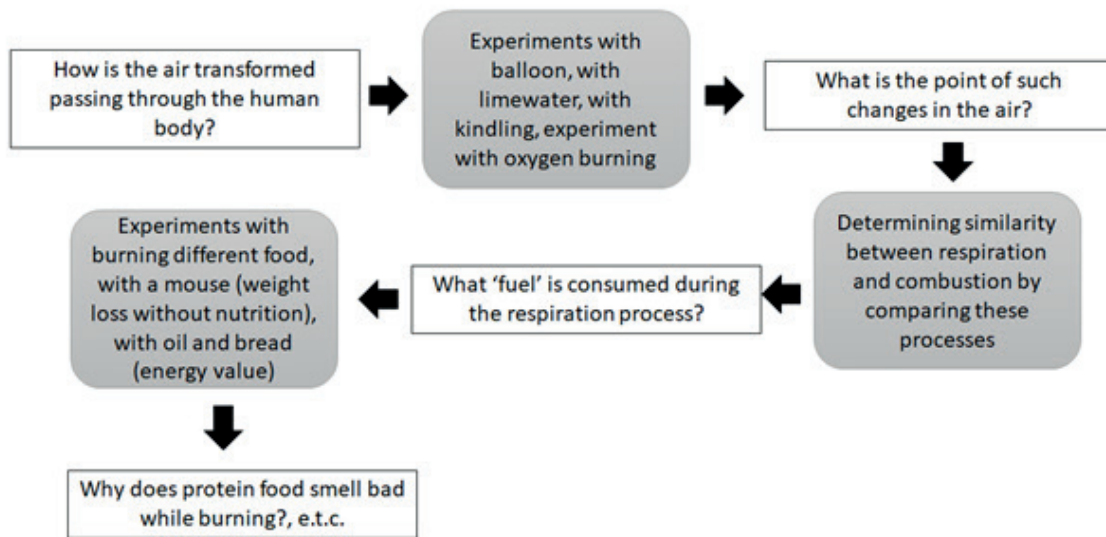

Fig. 1. The first stage in the development of the concept of "respiration" in experimental learning
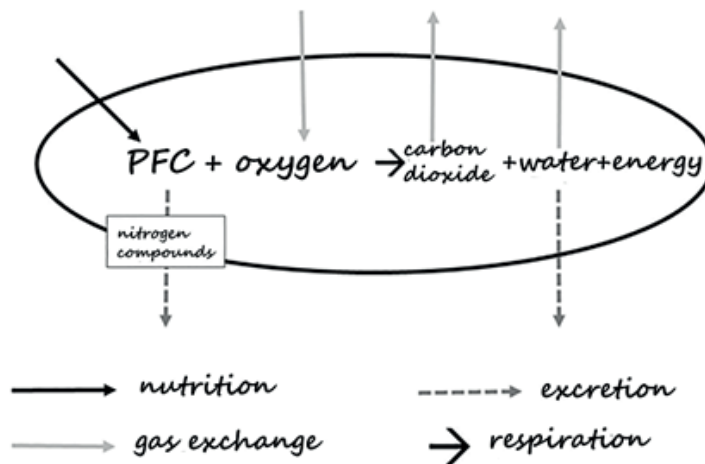

Fig. 2. A diagram showing the connection between the processes taking place in the body of a living being. Different types of arrows indicate different processes

---

[1] A similar observation is described in the work of A.N. Leontiev (experiments of L.I. Bozhovich).

While creating a diagram, a schoolchild for the first time gets an opportunity to distinguish between the processes of respiration and gas exchange. The scientific term "respiration" means either the process of oxidation of organic substances (narrow sense) or combines all stages of respiration, including the transition of oxygen and carbon dioxide into the internal environment and back, as well as the process of air movement along the respiratory tract. However, there is a special term to designate the transition of gases across the body boundaries in the scientific language: gas exchange. This term is offered to children by the teacher when they independently formulate the definition of this process according to the diagram, describing the gray arrows on the diagram. The teacher helps the students to search for a schematic form and the necessary words thereby emphasizing their statements and actions in a certain way. Thus, for the students initially a contradiction between the original meaning of the word 'respiration' and the new understanding of this process arises.

Children perform tasks on translating statements such as "the dog breathed frequently, sticking out its tongue" from the everyday language into scientific a one, and this work is carried out not only verbally, but also in written forms, which should increase the level of mastery of concepts [20]. The words used by the teacher, everyday one and scientific one, indicate the relationship between "correct" (in this exact situation) and "wrong" [24]. In further discussions after each erroneous statement the teacher asks: "What does Masha confuse?" and children shout in unison: "Respiration with gas exchange!" After a while, the students, without waiting for the teacher's question, say: "Vova, do not confuse gas exchange and respiration!", which marks the "statement of the model" [24].

L.S. Vygotskii writes: "A child who knows water as he knows it in life and who learns its scientific concept at school may not combine both at once" [4, p. 12]. Is the word "unite" suitable for the phenomenon of interaction of two meanings of the word — the old "everyday" one and the new "scientific" one? P. Tul'viste, relying on the ideas of L.S. Vygotskii and V.V. Ivanov, shows that the thinking of an adult is heterogeneous. The reason for this heterogeneity is the variety of activities in which a person is included [19]. Thus, it is clear that everyday word usage should not be completely replaced by scientific one during the course of study. A botanist will not ask at the market to weigh the false fruits of garden strawberries, meaning to ask for a half a kilogram of strawberries. And at the same time, he will think about "strawberries", and not about "false fruits of garden strawberries". However, apparently, in the process of education a person has the opportunity to switch from one word usage to another, becoming (depending on current tasks) either rather primitively thinking, trusting and prone to apothenia [14], or critical, thinking in strict scientific terms.

The result of this stage is a clear distinction and opposition of the everyday and narrow scientific meaning of the word "respiration". The majority of students voluntarily and consciously move from one to another, depending on the task/situation. The condition for the formation of this action, i.e. "the condition for the presence of consciousness" in this transition [24], becomes the opposition and re-meaning of the processes identified by the students and presented schematically by the teacher.

3. Specification of the respiration concept

The next step in the development of the concept is the point of surprise when students discover where respiration takes place — the mitochondria of every living cell. Before that, students knew that the respiration process occurs "somewhere inside, in the internal environment". Whereas in parallel with the development children's everyday ideas about what is "internal" and "external" are being hacked, and it becomes clear that the contents of the lungs are the external environment, although it is a SORT OF THE AREA INSIDE the body. The transformation of everyday ideas is proceeding on a broad front, like an ice motion. This is the very systemic nature of scientific concepts, which L.S. Vygotskii emphasized so often.

Studying multicellular animals, students concretize their understanding: they should detect the energy consumption of a particular process, thereby putting this process in connection with the process of respiration. The function connection diagram is enriched with the ventilation function etc.

4. Understanding respiration as a basis for subsequent action. Formation of a system of concepts

The next milestone in the development of the concept is studying plants. The external immobility of plants is deceptively simple, functionally they are more complex than animals. Therefore, in our course they are studied later. The function connection diagram of the animal organism, created by students, becomes a support in the discovery of the plants functioning principles [9; 22; 23]. The connection between the processes of respiration and photosynthesis, discovered by students, transforms the understanding of respiration, inscribing it into a more powerful system of concepts of plastic and energy metabolism, which develops further in 10—11 grades programs. This leads, in Vygotskii's words, "to its localization within a definite system of relationships of generality..." [2, p. 222]. Thus, the element of learning activity sets a certain rhythm for the development of concepts and connects individual acts of mediation [24].

The Interaction of Scientific and Everyday (Initial) Concepts

The way of learning in Vygotskii's time led him to believe that scientific concepts introduced verbally in learning differ from spontaneous ones in a different relation to the child's experience. We see that the verbal introduction of a scientific concept does not lead to the required result,

and the organization of children's own actions contributes to the development of concepts to a greater extent, which indicates the need to restructure traditional education.

The way of a scientific concept differs from the way of everyday one not only in greater awareness, but in the fact that the subject of awareness (focusing, joint work) is not the content of the scientific concept, but the RELATIONSHIP between it and the content of the original children's ideas. Only a few students are able to do this work on their own, and this fact, apparently, is the basis of Vygotskii's idea that the level of development of scientific concepts "acts as a zone of proximal possibilities in relation to everyday concepts, paving the way for them, being a kind of propaedeutics of their development" [2, p. 187].

The deliberate opposition of the everyday and scientific definitions is a necessary moment in the formation of a scientific concept. Translation from the everyday language to a scientific one is not a technical moment in training, but a repetitive situation of changing positions, transition to a new vision in the simultaneous existence of the old and new views.

The retention of the distinction works not only for the formation of a scientific concept, but also for the development of the original everyday concept, enriching the latter with new meanings and images and making it more "built-in" into the general picture of the universe. The original understanding of respiration is now seen by students as limited. The processes of inhalation and exhalation become more physically felt and sensually differentiated, student's repeated observation of how they occur in his/her own body draws attention to different aspects. These processes are associated with other previously hidden or unknown to the student internal processes, which now, without becoming observable, nevertheless acquire some kind of reality in terms of representations. In the words of B.D. Elkonin: "...cultural is what sets the rhythm and perceptibility to the natural..." [26].

L.S. Vygotskii writes that everyday and scientific concepts "are not encapsulated or isolated in the child's consciousness. They are not separated from one another by an impenetrable wall, nor do they flow in two isolated channels. They interact continually." [2, p. 199]. Our observations show that it does not happen all the time. Often scientific concepts introduced in teaching traditionally verbally remain "encapsulated". The impact of

emerging scientific concepts on everyday ones does not occur spontaneously but requires certain conditions: either a specially organized training with returns and rethinking or a person's independent voluntary work to clarify his own concepts (directed reflexive thinking).

Further Development of the Scientific Concept

Speaking about what happens to scientific concepts further, L.S. Vygotskii writes that a clear thought becomes a personal thought "and the task of the psychologist is precisely to trace this process..." [3, p. 72]. Developing these ideas, the followers of Vygotskii discuss the construction of a person's own field of action and their own intentions, as the effects of the mediation act [8; 12].

Tracking the further transformations of the concept of respiration, we offered the students a three-level task (SAM) for this concept (pic. 3). It is difficult to observe the development of a scientific concept at the individual level in the classroom, but it is impossible to study these processes "in their simplest and most expressive form" [11] in laboratory conditions since interaction in the classroom is an essential condition for the formation. It is also difficult to track the dynamics of the formation of concepts in learning due to the "non-classical" nature of the cultural-historical approach: we understand that any intervention changes the course of the process. We have to be content with a comparative analysis of sections made in different classes at different stages of training. For these data statistical analysis seems inadequate: solvability is affected by the depth of understanding by teachers of learning tasks, exactingness towards students, etc. Based on these data, one can only build hypotheses about development trends.

Without analyzing the data in detail, we note one extremely interesting fact: after the growth of understanding, lagging by months and even years, there follows a gradual increase in the solvability of the third level task. The time delay, the lag between understanding and the ability to freely use the concept to solve a variety of "unclassified" tasks, is also indicated by other data [13; 22]. This means that the assimilated scientific concept becomes its own resource and is not finally appropriated immediately.

This is related to the need to reconstitute knowledge obtained not "in life" but in specially created educational
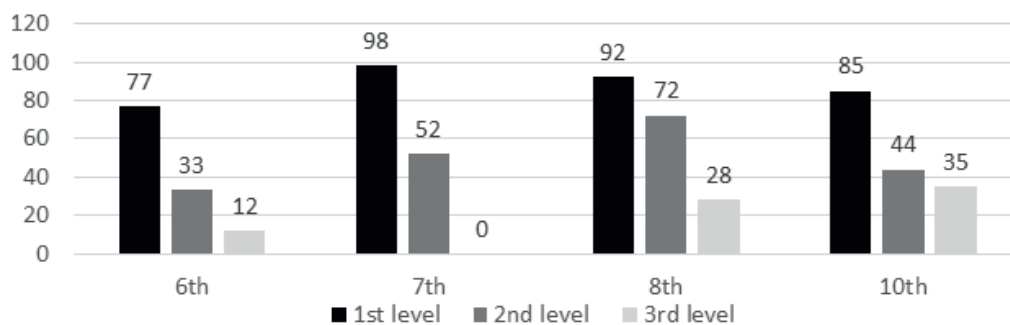

Fig. 3. Solvability of the same three-level problem on the concept of respiration by students of 6th—10th grades (114 people) of the same school, studying with different teachers

situations [6]. But more important is the need to "re-functionalize" the concept — from the object of construction it becomes a tool [8; 25; 26]. Further development relates to its understanding of the concept as a certain operational unit, inscribing it into the contexts of his own actions, individualization of the sign form. The final appropriation occurs in spontaneously emerging everyday situations, but to amplify the effect it is necessary to organize training trials within the framework of directed learning [23].

L.S. Vygotskii notes that "logical thinking is not made up of concepts... it is the concepts themselves in their action..." [3, p. 78]. Fixing the fact of the final appropriation of the concept of respiration, we basically mark a major step in the formation of conceptual biological thinking.

Summary

Assimilation of the scientific concept of respiration does not occur at an easy pace. Even in the conditions of organized learning, the transformation of everyday concepts does not always occur: the learned and understood definitions of terms can remain encapsulated, separated from the original concepts.

The transformation of an initial/everyday concept into a scientific one takes place in a series of mediation acts: this is a set of turns — points of meeting of the developing objective activity with the sign forms that mediate it. It is in them that the meaning of the word "respiration" develops. The paths of the scientific and everyday concepts differ in that the subject of the joint work of the teacher and the student, and, therefore, what the student realizes is not the content of the scientific concept, but the **relation** between it and the content of the original everyday concepts. The condition for the completion of these transformations is the conscious opposition of the old and the new understanding and the retention of the opposition with the help of specially constructed sign forms.

The understanding that has arisen does not yet mean the possibility of using the concept as one's own resource, that is, in pedagogical terms, the possibility of applying a scientific concept. The final appropriation of the concept is associated with its refunctionalization and individualization of sign forms that keep it in the mind.

The formed scientific concept does not replace the everyday one "including it in itself". As a metaphor for understanding the essence of the interaction of scientific and everyday concepts in the human mind, the well-known mathematical problem of six matches from which four triangles are required is suitable. To solve it you need to go out of the plane into space and fold the tetrahedron. The formation of a scientific concept based on everyday ones is the way out of the plane. It is possible to return to the plane, it does not cease to exist. Everyday difficulty instantly returns a person to the plane: "Breathe! Deeper!" — and the person instantly takes a deep breath. However, a three-dimensional structure once erected allows it to be reconstructed again and again, each time making less and less effort. Therefore, in a situation where a deeper/higher scientific view is required, it turns out to be possible not only to rebuild the tetrahedron, but also to look at what is around from the top of this tower.

References

1. Biologicheskii entsiklopedicheskii slovar' [Biological encyclopedic dictionary]. Available at: https://dic.academic.ru/contents.nsf/dic_biology/ (Accessed: 12.02.2020). (In Russ.).
2. Vygotskii L.S. Myshlenie i rech'. Sobr. soch. v 6 t. Tom 2 [Thinking and speaking. Collected Works: in 6 vol. Vol. 2]. Moscow: Publ.Pedagogika, 1982, pp. 6—361. (In Russ.).
3. Vygotskii L.S. Pedologiya podrostka. Sobr. soch. v 6 t. Tom 4 [Pedology of a teenager. Collected works in 6 vol. Vol. 4]. Moscow: Publ.Pedagogika, 1982, pp. 5—242. (In Russ.).
4. Vygotskii L.S. Razvitie zhiteiskikh i nauchnykh ponyatii v shkol'nom vozraste [Development of everyday and scientific concepts at school age]. *Psikhologicheskaya nauka i obrazovanie = Psychological science and education*, 1996. Vol. 1, no. 1, pp. 5—19. (In Russ.).
5. Gordeeva T.O. Kognitivnye i obrazovatel'nye effekty sistemy razvivayushchego obucheniya D.B. El'konina—V.V. Davydova: vozmozhnosti i ogranicheniya [Cognitive and educational effects of the developmental education system D.B. Elkonin — V.V. Davydov: opportunities and limitations]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2020. Vol. 16, no. 4, pp. 14—25. DOI:10.17759/chp.2020160402 (In Russ.).
6. Gist Kh. Podderzhka prisvoeniya znanii i Conceptual Change v obuchenii. Strategiya obucheniya pri voskhozhdenii ot abstraktnogo k konkretnomu [Supporting Knowledge Assignment and Conceptual Change in Teaching. Learning

Литература

1. Биологический энциклопедический словарь [Электронный ресурс]. URL: https:// //dic.academic.ru/contents.nsf/dic_biology/ (дата обращения: 12.02.2020).
2. *Выготский Л.С.* Мышление и речь // Собр. соч.: в 6. т. Т. 2. М.: Педагогика, 1982. С. 6—361.
3. *Выготский Л.С.* Педология подростка // Собр. соч.: в 6 т. Т. 4. М.: Педагогика, 1982. С. 5—242.
4. *Выготский Л.С.* Развитие житейских и научных понятий в школьном возрасте // Психологическая наука и образование. 1996. Том 1. № 1. С. 5—19.
5. *Гордеева Т.О.* Когнитивные и образовательные эффекты системы развивающего обучения Д.Б. Эльконина—В.В. Давыдова: возможности и ограничения // Культурно-историческая психология. 2020. Том 16. № 4. С. 14—25. DOI:10.17759/chp.2020160402
6. *Гист Х.* Поддержка присвоения знаний и Conceptual Change в обучении. Стратегия обучения при восхождении от абстрактного к конкретному // Культурно-историческая психология. 2014. Том 10. № 4. С. 99—109.
7. *Давыдов В.В.* Теория развивающего обучения. М: ИНТОР, 1996. 544 с.
8. *Егорова А.А.* Построение ситуации собственного действия: способ действия и намерение // Культурно-историческая психология. 2010. Том 6. № 3. С. 18—28.
9. *Зайцева В.Е., Чудинова Е.В.* Фотосинтез как заново открытый велосипед // Биология в школе. 2013. № 2. С. 6—51.

strategy for climbing from abstract to concrete]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2014. Vol. 10, no. 4, pp. 99—109. (In Russ.).

7. Davydov V.V. Teoriya razvivayushchego obucheniya [Developmental learning theory]. Moscow: Publ. INTOR, 1996. 544 p. (In Russ.).

8. Egorova A.A. Postroenie situatsii sobstvennogo deistviya: sposob deistviya i namerenie [Building a situation of one's own action: mode of action and intention]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2010. Vol. 6, no. 3, pp. 18—28. (In Russ.).

9. Zaitseva V.E., Chudinova E.V. Fotosintez kak zanovo otkrytyi velosiped [Photosynthesis as a rediscovered bicycle]. *Biologiya v shkole = School biology*, 2013, no. 2, pp. 46—51. (In Russ.).

10. Kazanskaya K.O., Meshcheryakov B.G. Kontseptual'nye izmeneniya v predstavleniyakh o zdorov'e i bolezni u mladshikh shkol'nikov [Conceptual changes in the concepts of health and illness in primary schoolchildren]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2012. Vol. 8, no. 3, pp. 19—29. (In Russ.).

11. Leont'ev A.N. Ovladenie uchashchimisya nauchnymi ponyatiyami kak problema pedagogicheskoi psikhologii [Mastering by students of scientific concepts as a problem of educational psychology]. In Leont'ev A.N. Stanovlenie psikhologii deyatel'nosti. Rannie raboty [Formation of activity psychology. Early work]. Moscow: Publ. Smysl, 2003, pp. 316—350. (In Russ.).

12. Nezhnov P.G. Oposredstvovanie i spontannost' v modeli «kul'turnogo razvitiya» [Mediation and spontaneity in the model of "cultural development"]. *Vestnik Mosk. Un-ta. Psichologia = The Bulletin of the Moscow State University. Psychology*, 2007. Vol. 14, no. 1, pp. 133—146. (In Russ.).

13. Nezhnov P.G. Testy SAM (Student Achievements Monitoring) v obrazovatel'noi praktike [SAM (Student Achievements Monitoring) tests in educational practice]. Moscow: Publ. Avtorskii klub, 2018, 48 p. (In Russ.).

14. Panchin A.Yu. Apofeniya [Apophenia]. Sanct-Petersburg: Publ. Piter, 2019, 256 p. (In Russ.).

15. Ponomareva I.N. et al. Biologiya: 6 klass [Biology. 6 grade]. https://newgdz.com/fullpage/?I89dKUvcdJvlak/106/uchebniki-6-klass/11097-chitat-biologiia-6-klass-ponomareva-onlain (Accessed: 19.12.2020). (In Russ.).

16. Romashchuk A.N. Perekhod ot zhiteiskogo k nauchnomu pri obuchenii: ispol'zovanie kategorii «snyatiya» v podkhode L.S. Vygotskogo [The transition from everyday to scientific in teaching: the use of the category of "subtraction" in the approach of L.S. Vygotsky]. Available at: https://author-club.org/projects/seminar/pages/romashchuk/ (Accessed: 18.02.2021). (In Russ.).

17. Rubtsov V.V. O dvukh putyakh obrazovaniya ponyatii u rebenka [About two ways of forming concepts in a child]. *Psikhologicheskaya nauka i obrazovanie = Psychological science and education*, 1997. Vol. 2, no. 3, pp. 61—72. (In Russ.).

18. Rubtsov V.V., Margolis A.A., Telegin M.V. Psikhologicheskoe issledovanie geneza i razvitiya zhiteiskikh ponyatii v usloviyakh uchebnogo dialoga [Psychological study of the genesis and development of everyday concepts in the context of educational dialogue]. *Psikhologicheskaya nauka i obrazovanie = Psychological science and education*, 2008. Vol. 13, no. 2, pp. 61—69. (In Russ.).

19. Tul'viste P. Kul'turno-istoricheskaya priroda verbal'nogo myshleniya [The cultural and historical nature of verbal thinking]. Available at: https: www.psychology-online.net/articles/doc-815.html (Accessed: 11.02.2021). (In Russ.).

20. Tsukerman G.A., Kleshch N.A. Ponimanie ponyatiinogo teksta i vladenie ponyatiyami [Understanding of conceptual text and mastery of concepts]. *Psikhologicheskaya nauka i obrazovanie = Psychological science and education*, 2017. Vol. 22, no. 3, pp. 19—27. DOI:10.17759/pse.2017220302. (In Russ.).

10. *Казанская К.О., Мещеряков Б.Г.* Концептуальные изменения в представлениях о здоровье и болезни у младших школьников // Культурно-историческая психология. 2012. Том 8. № 3. С. 19—29.

11. *Леонтьев А.Н.* Овладение учащимися научными понятиями как проблема педагогической психологии // Становление психологии деятельности. Ранние работы. М.: Смысл. 2003. С. 316—350.

12. *Нежнов П.Г.* Опосредствование и спонтанность в модели «культурного развития» // Вестник МГУ. Серия 14. Психология. 2007. № 1. С. 133—146.

13. *Нежнов П.Г.* Тесты SAM (Student Achievements Monitoring) в образовательной практике. М.: Некоммерческое партнерство «Авторский клуб», 2018. 48 с.

14. *Панчин А.Ю.* Апофения. СПб: Питер. 2019. 256 с.

15. *Пономарева И.Н. и др.* Биология: 6 класс [Электронный ресурс] / URL: https:// newgdz.com/fullpage/?I89dKUvcdJvlak/106/uchebniki-6-klass/11097-chitat-biologiia-6-klass-ponomareva-onlain (дата обращения: 19.12.2020).

16. *Ромащук А.Н.* Переход от житейского к научному при обучении: использование категории «снятия» в подходе Л.С. Выготского [Электронный ресурс]. URL: https://author-club.org/projects/seminar/pages/romashchuk/ (дата обращения: 18.02.2021).

17. *Рубцов В.В.* О двух путях образования понятий у ребенка // Психологическая наука и образование. 1997. Том 2. № 3. С. 61—72.

18. *Рубцов В.В., Марголис А.А., Телегин М.В.* Психологическое исследование генеза и развития житейских понятий в условиях учебного диалога (второй этап) // Психологическая наука и образование. 2008. Том 13. № 2. С. 61—69.

19. *Тульвисте П.* Культурно-историческая природа вербального мышления [Электронный ресурс] / URL: https: www.psychology-online.net/articles/doc-815.html (дата обращения: 11.02.2021).

20. *Цукерман Г.А., Клещ Н.А.* Понимание понятийного текста и владение понятиями // Психологическая наука и образование. 2017. Том 22. № 3. С. 19—27. DOI:10.17759/pse.2017220302

21. *Чудинова Е.В.* «Новая биология» и ее образовательные результаты // Психологическая наука и образование. 2019. Том 24. № 3. С. 63—73. DOI:10.17759/pse.2019240306

22. Учебный курс «Новая биология» [Электронный ресурс]. URL: http://m-bio.club/(дата обращения: 20.02.2021).

23. Учим понимать биологию. Коллективная монография / Авт.-сос. Е.В. Чудинова. М.: Некоммерческое партнерство «Авторский клуб», 2019. 216 с.

24. *Эльконин Б.Д.* Посредническое Действие и Развитие // Культурно-историческая психология. 2016. Том 12. № 3. С. 93—112. DOI:10.17759/chp.2016120306

25. *Эльконин Б.Д.* Современность КИП как психологии развития: ключевые искомые, шаг, горизонт: Доклад на семинаре «Культурно-историческая психология и антропология: шаг развития» 17.02.2021 [Электронный ресурс]. URL: https://www.youtube.com/watch?v=emYMlMJGvQ8&feature=youtu.be (дата обращения: 19.02.2021).

26. *Duran B.J., Dugan T., Weffer R.* Language Minority Students in High School: The Role of Language in Learning Biology Concepts [Электронный ресурс]. URL: https://doi.org/10.1002/(SICI)1098-237X(199806)82:3<311::AID-SCE2>3.0.CO;2-F (дата обращения: 18.02.2021).

27. *Çimer A.* What Makes Biology Learning Difficult and Effective: Students' Views [Электронный ресурс].

21. Chudinova E.V. «Novaya biologiya» i ee obrazovatel'nye rezul'taty ["New biology" and its educational results]. *Psikhologicheskaya nauka i obrazovanie = Psychological science and education*, 2019. Vol. 24, no. 3, pp. 63—73. DOI:10.17759/pse.2019240306. (In Russ.).

22. Uchebnyi kurs «Novaya biologiya» [Course "New biology"]. Available at: http://m-bio.club/ Accessed: 20.02.2021). (In Russ.).

23. Uchim ponimat' biologiyu [We teach to understand biology]. Moscow: Publ. Avtorskii klub, 2019. 216 p. (In Russ.).

24. El'konin B.D. Posrednicheskoe Deistvie i Razvitie [Mediation and development]. *Kul'turno-istoricheskaya psikhologiya = Cultural-Historical Psychology*, 2016. Vol. 12, no. 3, pp. 93—112. DOI:10.17759/chp.2016120306

25. El'konin B.D. Sovremennost' KIP kak psikhologii razvitiya: klyuchevye iskomye, shag, gorizont. Doklad na seminare "Kul'turno-istoricheskaya psikhologiya i antropologiya: shag razvitiya" 17.02.2021 [Modernity of instrumentation as a developmental psychology: key sought, step, horizon. Report at the seminar "Cultural-historical psychology and anthropology: a step of development"]. Available at: https://www.youtube.com/watch?v=emYMlM JGvQ8&feature=youtu.be (Accessed: 19.02.2021). (In Russ.).

26. Duran B.J., Dugan T., Weffer R. Language Minority Students in High School: The Role of Language in Learning Biology Concepts. Available at: https://doi.org/10.1002/(SICI)1098-237X(199806)82:3<311::AID-SCE2>3.0.CO;2 (Accessed: 18.02.2021)

27. Çimer A. What Makes Biology Learning Difficult and Effective: Students' Views. Available at: Kristiani, E., Ristanto, R.H., & Lisanti, E. Exploring Gender-based Biological Concepts: an Analysis of Bilingual Secondary School Students. *Biosfer: Jurnal Pendidikan Biologi,* 2020. Vol. 13, no. 1, pp. 1—13.

28. Lazarowitz R., Penso S. High School Students' Difficulties in Learning Biology Concepts. Available at: https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F00219266.1992. DOI:10.1080/00219266.1992.9655276 (Accessed: 20.12.2020)

29. Ramaiya S.D. Innovative Teaching Approaches in Biology Education for Promoting Sustainability. Available at: https://www.researchgate.net/profile/Siti_Nurul_Mahfuzah_Mohamad2/publication/328064639_IUCEL_2018_Proceedings (Accessed: 18.02.2021)

30. Tekkaya C., Özkan Ö., Sungur S. Biology Concepts Perceived as Difficult by Turkish High School Students. Available at: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.843.5501&rep=rep1&type=pdf (Accessed: 16.12.2020)

URL: https://academicjournals.org/journal/ERR/article-abstract/6AD7EA84352 (дата обращения: 16.02.2021)

28. *Lazarowitz R., Penso S.* High School Students' Difficulties in Learning Biology Concepts [Электронный ресурс]. URL: https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F00219266.1992. DOI: 10.1080/00219266.1992.9655276 (дата обращения: 20.12.2020)

29. *Ramaiya S.D.* Innovative Teaching Approaches in Biology Education for Promoting Sustainability [Электронный ресурс]. URL: https://www.researchgate.net/profile/Siti_Nurul_Mahfuzah_Mohamad2/publication/328064639_IUCEL_2018_Proceedings (дата обращения: 18.02.2021).

30. *Tekkaya C., Özkan Ö., Sungur S.* Biology Concepts Perceived as Difficult by Turkish High School Students [Электронный ресурс]. URL https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.843.5501&rep=rep1&type=pdf (дата обращения: 16.12.2020).

Information about the authors
Elena V. Chudinova, Ph.D. in Psychology, Leading Researcher, PIRAO, Moscow, Russia, ORCID: https://orcid.org/0000-0002-3923-781X, E-mail: chudinova_e@mail.ru.

Vera Ye. Zaytseva, the honoured teacher of RF, school 67, Moscow, Russia, E-mail: zaiceva@67sch.ru

Информация об авторах
Чудинова Елена Васильевна, кандидат психологических наук, ведущий научный сотрудник, Психологический институт РАО имени Л.В. Щукиной (ФГБНУ «ПИ РАО»), Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-3923-781X, e-mail: chudinova_e@mail.ru

Зайцева Вера Евгеньевна, заслуженный учитель России, учитель биологии ГБОУ «Школа № 67», Москва, Российская Федерация, e-mail: zaiceva@67sch.ru

Comparative Analysis of Mathematics Teaching Programs in Primary School from the Standpoint of the Cultural-Historical Activity Approach

Anastasia N. Sidneva
Lomonosov Moscow State University, Moscow, Russia
ORCID: http://orcid.org/0000-0002-9815-9049, e-mail: asidneva@yandex.ru

In the Russian Federation, 11 mathematics training programs were recommended for implementation in the 2020—2021 elementary school curriculum. The large number of programs raises the question of how they differ, a question which is relevant for both school administrators and primary school teachers, and parents. This article applies the criteria developed in the mainstream of the Cultural-Historical Activity approach to learning, to analyze the most significant differences in the mathematics programs from a psychological point of view. We have analyzed the methodological materials in mathematics and textbooks in the following programs for grades one through five: "School of Russia", "The system of D.B. Elkonin — V.V. Davydov" (the programs of both E.I. Alexandrova, and V.V. Davydov and V.F. Gorbov), "Learning to learn", and "Perspective". Our study showed that the most significant differences between the programs concerned the type of concepts proposed for assimilation; the type of actions by which these concepts were to be assimilated and practiced; and how the means of these actions were provided. The selected criteria corresponded most closely to the program of E.I. Alexandrova, which was created within the framework of the educational complex "The system of D.B. Elkonin — V.V. Davydov".

Keywords: teaching mathematics; activity approach; action; indicative basis of action.

Сопоставительный анализ программ обучения математике в начальной школе с позиций культурно-исторического и деятельностного подходов

А.Н. Сиднева
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID: http://orcid.org/0000-0002-9815-9049, e-mail: asidneva@yandex.ru

В РФ на 2020—2021 годы рекомендовано к реализации в учебном процессе начальной школы 11 программ обучения математики. Такое количество программ вызывает вопрос об их действительных различиях, актуальный как для администрации школ и учителей начальных классов, так и для родителей. В данной статье на основе критериев, разработанных в русле культурно-исторического и деятельностного подходов к учению, анализируются наиболее существенные с психологической точки зрения различия программ по начальной математике. Нами были проанализированы методические материалы по математике для 1—4-х классов и учебники для 1-х классов по шести программам: «Школа России», «Система развивающего обучения Л.В. Занкова», «Система Д.Б. Эльконина—В.В. Давыдова» (две программы — Э.И. Александровой; В.В.Давыдова и В.Ф. Горбова), «Учусь учиться» и «Перспектива». Было показано, что наиболее существенные различия между анализиру-

емыми программами касаются типа предлагаемых для усвоения понятий, типа действий, в которых данные понятия усваиваются и отрабатываются, и особенностей предоставления средств этих действий. В наибольшей степени выбранным критерием соответствует программа Э.И. Александровой, созданная в рамках УМК «Система Д.Б. Эльконина—В.В. Давыдова».

Ключевые слова: обучение математике, деятельностный подход, действие, понятие, ориентировочная основа действия.

Introduction

In 1972, in his classic work [16], V.V. Davydov criticized the type of concepts underlying the prevailing primary school curriculum at the time. He also described the principles for teaching based on the ideas of the Cultural-Historical and Activity approach (hereinafter referred to as CHAT). With the enactment of the current Federal State Educational Standard of Primary Education [29], Russian primary schools have moved from the objective of instilling knowledge, skills, and abilities to the task of student development and the formation of universal learning actions [4]. Reliance on the Federal State Educational Standard is mandatory for every school curriculum; however, the content of the instruction, which was V.V. Davydov's main concern, — i.e., the structure of concepts and methods of actions — is not explicitly specified in the Standard. Therefore, it is relevant to analyze to what extent the principles of CHAT are actually implemented in modern programs.

Many studies have been conducted on elementary school mathematics curricula conducted in the CHAT paradigm [10; 26]; therefore, the analysis of mathematical programs is the most interesting to us. The practical significance of such an analysis is obvious: how can a school or parents choose between programs if they all declare they are implementing the principles laid down in the Federal State Educational Standard? In addition, such a study is important for the development of the instrumentation and control systems themselves, since the programs' general principles often act as normative principles, which are understood as the foundations for developing the program but not for ongoing evaluation [27; 30].

The literature on the methodology for teaching mathematics traditionally deals with one or another version of the comparison of programs [6; 28]. Most often, the main objectives of the programs and the sequence of introduction of concepts are analyzed. Thus, the work of A.V. Beloshistaya [6] discusses how the methods differ in purpose — the development of computing skills and their application to problem solving (textbook by M.M. Moro) versus the child's intellectual development (textbooks by L.V. Zankov, & N.B. Istomina). The programs differ according to their method of introducing concepts: in whether they go from a number to magnitude (M.M. Moreau); from magnitude to a number (D.B. Elkonin and V.V. Davydov); from set to relation, then to a number and magnitude (K.I. Neshkov and V.N. Rudnishkaya); or from magnitude and set to relation, and then to a number (L.G. Peterson).

Such an analysis is useful, but it is carried out from the standpoint of didactics, not the psychology of learning.

A variant of the analysis of textbooks and programs from the CHAT standpoint was presented in the work of V.V. Pavlova [22]. In her paper, the criteria for analysis were the preconditions for the formulating actions, as highlighted in the works of P.Ya. Galperin: whether the actions proposed by the teacher/textbook are adequate to the acquired knowledge; whether and how exactly the guidelines for such actions are given; how generalized and complete the proposed basis for orientation, etc. [*ibid.*, pp. 33—34]. Pavlova's analysis showed that the system of D.B. Elkonin — V.V. Davydov (hereinafter — ED) met these criteria to the greatest extent. However, this work by V.V. Pavlova was published in 2008, before the adoption of the new Federal State Educational Standards, and it analyzed a limited set of programs., and many of the textbooks she analyzed are no longer included in the Federal List. In addition, her work only presented the ED system as expressed in the program of

E.I. Alexandrova; the program of V.V. Davydov and V.F. Gorbov was not considered. Thus, we believe it is relevant to conduct such an analysis for mathematics textbooks included in the Federal List right now. In the comparison, we will rely on what we consider the most essential principles for understanding the learning process, which have been developed in several studies that rely on the CHAT paradigm.

Principle 1. The content of instruction, focusing on the essential relationships among objects. According to L.S. Vygotsky [8, p. 345], primary school teaching should be fundamentally different from teaching a preschooler precisely because of its content. V.V. Davydov showed that in most modern mathematics educational programs, there is a complete "continuity" with the child's preschool experience, and concepts are proposed for assimilation that are not based on the relations essential for this subject area [16, p. 40]. Thus, the understanding of a number as a result of counting individual objects, which develops in preschool practice, is far from the scientific understanding of a number, that is, understanding it as a result of measuring a quantity by an adequate measure. If we rely on the continuity with preschool experience, we thereby introduce children only to a special case of a number, which naturally leads to errors. Reasonableness in the orientation to the essential relations among objects described by mathematical concepts was also emphasized by P.Ya. Galperin [10; 12; 13].

Principle 2. Assimilation of concepts through adequate actions. The second important aspect is the actions by which concepts should be acquired and assimilated by the students. L.S. Vygotsky directly pointed out that scientific concepts are not the result of generalizing about objects according to their observable everyday signs; they are set "from above" [7]. Another important difference in the actions for the assimilation of scientific concepts was explained in the works of A.N. Leontiev and his colleagues [11; 18; 19]: the concept of being set "from above" will be assimilated qualitatively only if the child understands that it is necessary to use it in a certain way, that is, if it becomes the subject of activity [18].

In fact, the actions organized for the introduction of concepts should convey to the child the need for a new concept: that is, allow him to see the task which led it to arise. According to V.V. Davydov, the actions used for the introduction of concepts should be practical tasks, but performed for educational pur-poses (in order to discover a common way of action) [10; 11; 16]. The actions organized for the elaboration of concepts should be based on the general method not so much for the purpose of its "application," as for the purpose of its concretization, or definition of boundaries [9]. At the same time, such actions should "work" for the formation of a) consciousness (the ability to explain what and why I am doing), for which naming (the speech form of action) and modeling are important; b) generality (for which variations of task types are important); and c) execution in mind, involving gradual reduction and integration into other forms of activity.

Let's analyze to what extent these conditions are supported in the cited mathematical programs.

"School of Russia" (M.I. Moro et al.). The basis of this course's curriculum, which is the most classical one, is the fullest use of the specifics of the subject area for the intellectual development of the student [5]. The authors note the full compliance of the updated program after the introduction of the new Federal Standard with the provisions of the CHAT [ibid., p. 21].

The curriculum indicates that the key content in the first grade textbook is arithmetic material, which involves first studying the numbering of numbers, then arithmetic operations [p. 6]. However, the concept of number is presented as the number of individual objects; numbers (and enumeration) are studied sequentially. Interestingly, the number 10 is studied in the same way as single-digit numbers; the children are simply shown that it is written "like this" [20, p. 60]. In the pre-number period, students learn to identify the relationships "more or less," "as much," and "how much more or less" between individual specific objects.

Comparisons of other characteristics (shape, color, etc.) are presented here as separate tasks in the process of studying numbers (length [20, p. 17, 19, 25, 35], mass [21, p. 36], and volume (capacity) [21, p. 38]). At the same time, comparisons, as well as measurements with the help of measuring units (for example, measurements that are already "embedded" in the length of the segment), are proposed to be done "by eye". Thus, the number is first "tied" to the measurement of the number of specific items, and then the idea of the number is extended to other quantities. From a psychological point of view, this means that from the very beginning, the students do not form a concept that allows them to intelligently solve all problems that require using numbers.

As for the actions used to introduce concepts, the authors note that each lesson should begin with setting a goal (which concepts or actions children need to master), and then "in the form of specially selected tasks, whose performance leads the students to independently obtain new results" [20, p. 22]. In fact, all actions by which concepts are to be assimilated are presented as something "given," which you only need to learn about, or which you need to "master."

Training actions are organized through solving tasks "for the primary consolidation of new material," involving "first speaking out loud and at the same time writing mathematically, and then speaking to oneself, materials for repetition and consolidation and self-control and self-assessment" [20, p. 22]. Interestingly, there are "elements" of CHAT in the form of models (work is undertaken on the relationship between the text and the task-drawing-diagram) and speaking out loud.

In general, we can conclude that in the program of M.I. Moro, there are attempts to implement CHAT principles, but they are in no way related to changing the content of training, so that it really allows you to act rationally.

"Perspektiva" (G.V. Dorofeev et al.). In this program, as the authors note, a set-theoretical approach to the introduction of basic concepts ("number," "magnitude," "figure") is applied consistently [17]. So, at the beginning of the first grade, the concepts of "set" and "element of a set" are introduced; the relationship of equality between sets is established; and tasks for comparing the numbers of sets are considered. The authors write that this "naturally allows children to understand the concept of a natural number, to understand the order of numbers in a natural series, to understand the meaning of the actions of addition and subtraction" [17, p. 3]. However, sets are given only as sets of separate objects, and all the comparisons are made between separate objects. Other values (length, mass, volume) are presented under separate topics during the first year.

The introduction of concepts takes place through the students performing actions that they are familiar with (for example, you need to divide objects into a group of vegetables and a group of mushrooms). After that, the teacher asks exactly how the children acted and either identifies a new term ("these groups are called sets in mathematics") or discusses the method (you need to put sticks here and here). In either case, these actions are not adequate to the content of the concepts being assimilated. Interest-

ingly, when this program introduces new ways of addition/subtraction, modeling is used by presenting a "numerical segment" — an analogue of a numerical straight line: "By 'walking' along a numerical segment and moving chips according to a given route, the child understands which method of calculation is more convenient (adding 1 five times, or adding 3, and then 2) [*ibid.*, p. 3]."

As for training actions, the authors of this textbook strive to develop consciousness and transfer it to the children's inner plane through the so-called "three-stage methodology for the formation of computational skills:" a) calculations using subject sets and a numerical segment (perception level); b) abstract calculations (representation level); and c) formulation of the calculation rule (explanation level). At the same time, it turns out that the rules and explanations are given after the actions are performed, which raises the question of on what basis the previous action was carried out.

In general, we can say that this program, although it has specifics and uses some important CHAT principles, does not fundamentally differ from the program of M.I. Moro.

The "Elkonin-Davydov system" (E.I. Alexandrova version). This program is based on Davydov's ideas for a radical change in the content of teaching mathematics in elementary school, *i.e.*, basing it on the concept of a rational number [16, p. 311]. The concept of number is introduced here through the concept of magnitude and its measurement — the "postponement" of the unit of measurement (measure) on the measured value and the account of such postponements [1]. The number in this case is a characteristic of the quantity. By changing the conditions for solving measurement problems and their inverse (reproducing the magnitude through postponing measurements), students "grow" various types of numbers and ways to designate them. The program fully complies with the first criterion we have chosen: the proposed concept of a number allows us to act rationally when solving problems.

The activity aspect of the program is represented by a set of educational and practical tasks [1; 2]. The basic task of the first grade is the task of restoring/selecting an object with specified properties (for example, a thread is presented; it is necessary to choose the same length to build a basket for a balloon). In this case, the student doesn't just have to compare objects and highlight their common features but choose an object suitable for solving a practical prob-

lem. In the process of solving it, he identifies the attribute according to which his selection is made; that is, knowledge of the attribute here is a means of solving a problem, not a goal in itself. Later, the selection task is supplemented with a replication of the comparison results (modeling). The need for this replication is justified as a recording "for another person," so that the desired value can be reproduced in another place and at another time. This again makes the task meaningful, and not just a task of guessing the correct answer. Indirect comparison of quantities is organized when direct comparison by property is impossible and it is necessary to use an intermediary — a measure equal to one of the compared quantities, and then a number. From the question, what are the measurements, the following question arises: what are numbers and how (what?) are they being recorded (now and before)? A number line and a method of adding and subtracting numbers using a number line are constructed.

In the training tasks, the general method is specified. For example, a situation is introduced where the value is much larger than the measuring unit and you must use a group of measurements (and the measurement result will be expressed as a set of numbers). The relationship between the measurements for their use in another place and at another time leads to an understanding of the need to record digits and the introduction of a multi-digit number. Thus, the concept of number is not just "worked out, " but unfolds into an integral system of individual educational tasks, working on the formation of consciousness and the generalization of the method discovered. The transition to mental form is provided by materialization in the form of modeling and speech form (as in the ability to read this record and those of others).

Thus, in the program of E.I. Alexandrova, a concept of a number is presented which allows you to act with it rationally. It should also be noted that in this program, there are practically no actions that are not built into the logic of the program.

"Elkonin-Davydov' system" (V.V. Davydov, S.F. Gorbov, et al.). The program of V.V. Davydov, et al. in its foundations is based on the same principles as the program of E.I. Alexandrova. It is based on the concept of a real number as a special relationship of one quantity to another (measure) [15]. An important place in the study of the concept of magnitude is occupied by the numerical time frame. However, unlike in the program of E.I. Alexandrova, where this period lasts 120 hours, in that of V.V. Davydov et al.

it takes only 30 hours before a number is introduced. It is notable that the central point of the first few sections of the program is not in itself the ability to describe a subject by signs, but the task of applying signs to find (select) a subject suitable for some purposes [14].

Despite its similarity to the main idea of the pre-number period, the implementation of Davydov's program differs from that in the textbook of E.I. Alexandrova. This is due not only to a reduction in time, but also to the actions that students are invited to perform. So, a typical action performed for the introduction of a new feature in Davydov's textbook is a lesson requiring the students to guess the nature of a figure drawn by the teacher (see [14]), for which it is necessary to ask "smart questions" (those by which you can immediately find out what kind of figure was made). The tasks found in the textbook differ in that they are not always related to practical tasks, but are mainly tasks for working with signs (often in mental form immediately), such as to specify the same figures, on which signs are the same, compare in length / height, etc.

The initial forms of actions are radically different in the two curricula. In her textbook, E.I. Alexandrova always calls for a practical action first (for example, for tasks involving selection of a column for a building, the children should cut out variants of columns and apply them to the building, check whether they fit or not); but the Davydov-Gorbov's program calls for them to determine the solution in their mind. Similarly, modeling (by segments) is introduced simply as a way to record the results of comparison [14]. In her textbook, E.I. Alexandrova suggests figuring out how to denote equality if a child or someone else does not yet know how to write these words, before having them consider the equal sign and guessing how the one who invented such an icon reasoned and why it is exactly like that [2].

After introducing the concept of a number, it also unfolds into an integrated system of tasks, which solution is based on using the number line. The difference is that the topic "Addition and subtraction of quantities" and the topic "Whole and parts" are considered here *after* the introduction of the concept of numbers, and primarily on the material of numbers and the number line, rather than on the quantities themselves. At some point the numbers on the number line begin to be indicated by letters.

In general, the program of V.V. Davydov and V.F. Gorbov, et al. gives a full-fledged scientific concept of a number that allows you to act intelligently

with it. Adequate work with the signs of objects and the allocation of quantities unfolds from a conceptual point of view, although the actions by which these signs are allocated raise questions. The introduction of concepts often occurs in logical actions, which makes naming and differentiating features from each other and from subjects the main goal of children's educational work. This raises the question of the children's motivation and assumes separate and special work by the teacher to create specific motivation.

"Learning to learn program" (L.G. Peterson). L.G. Peterson notes that her course was created in full compliance with the requirements of the system-activity approach [24, p. 4]. She relies on the ideas of N.Ya. Vilenkin about the continuous development of the main lines of the school mathematics course (numerical, algebraic, etc.). She emphasizes that each of these lines is developed on the basis of those real conditions that led to their emergence in culture [*ibid*., p. 11]. Thus, if we talk about the number line, then it is built on the basis of both counting objects (elements of the set) and measuring quantities; it is believed that these two lines "bring students from different sides to the concept of number" (p. 12).

The first-grade textbook begins with tasks for comparing sets of objects that have a common property (such as shape, color); equal and non-equal signs are introduced, and comparisons are made by making pairs, joining into one whole (addition), and removing part of the set (subtraction). However, most often such aggregates are aggregates of individual items. Already in the ninth lesson, letter designations for aggregates are introduced. When introducing addition and subtraction operations, it is not emphasized that, in principle, it is possible to add/subtract not only those quantities that are separate. Therefore, this kind of introduction can give the child the erroneous idea that everything can be added/subtracted with everything. Although the author notes that the number is also introduced as a result of measuring quantities, the task of comparing and measuring quantities is not presented until lesson 76, after the introduction of numbers in lessons one to nine, the numerical line and operations on it. So, the children will be able to form only a specific idea of the number, which does not allow them to act rationally.

Actions for the introduction of concepts are organized through a system of "activity-based teaching," the essence of which is that students do not receive knowledge in a prepared form, but extract it themselves in the process of their own educational

activities [24, p. 5—7]. In this program, the actions by which concepts are introduced most often coincide with the actions for their application [22, p. 58]. Guidelines for such actions are found through the implementation of "old" actions by students using new material. The guidelines for the new methods are either not set at all, or are presented in the form of step-by-step support for the execution of actions, or they are given priory-made, but with the preliminary organization of their independent search when trying to perform an action [22, p. 59]. Usually, the search actions are to be performed by the students in their minds.

As for the training actions, there is little support for the actions of transferring to the mental plane. Working out a problem begins with speech, not with material, materialized forms of performing an action, which are used only to depict the result. There are no logical variations of the material in the tasks proposed for practicing the action. Situations for assimilating the orientation for various conditions of action are replaced by the performance of a huge number of tasks for which these guidelines are not needed [22, p. 63]. This reduces the likelihood of a full-fledged transition of the action into a mental level.

Thus, despite the declared reliance on the CHAT principles, L.G. Peterson's real program uses only its elements. This may be due to a different understanding of the essence of CHAT.

The program "System of developing instruction of L.V. Zankov" (I.I. Arginskaya et al.) is also of interest. We will not dwell on it in detail, since this analysis has been carried out by V.V. Pavlova [22]. We will only note that despite statements about the importance of organizing children's activities and the presence of two approaches to the introduction of the concept of number at the same time (set-theoretic and through the measurement of quantities) [3; 25], the concept of a number proposed in the first grade does not call for reasonable action to solve problems. The actions by which the concepts are introduced are not psychologically adequate to their content and basically represent actions for which students do not have ready-made ways to perform them, and thus need to be "discovered" [22].

Conclusion

Our analysis of the programs shows that in each of them, there are indeed attempts to rely on the

basic CHAT principles in the different ways the authors understand their content. The most frequently used provisions of CHAT are organizing the actions of the children themselves, setting educational tasks, presenting guideposts in a material/materialized form (including in the form of models), supporting the speech form of actions, etc. However, at the same time, it seems that the authors of the programs do not always understand what issues these provisions of CHAT were introduced to resolve: namely, that the content of instruction and the sequence of studying topics should ensure the rationality of action; eliminate formalism from mathematical concepts; that materialization and modeling are necessary to fix generalized methods for the purpose of further work with these models as means of solving problems, that the speech form is mandatory for the formation of consciousness of action, etc. The most consistently specified principles are implemented in only one program, that of E.I. Alexandrova ("Elkonin-Davydov System"). This means that the task of devising a more reflexive and less formal use of CHAT to create educational programs is still relevant.

References

1. Aidarova L.I. Psikhologicheskie problemy obucheniya mladshikh shkol'nikov russkomu yazyku [Psychological problems of teaching Russian language to primary schoolchildren]. Moscow: Pedagogika, 1978. 144 p. (In Russ.).

2. Aidarova L.I. Formirovanie nekotorykh ponyatii grammatiki po tret'emu tipu orientirovki v slova [Formation of some grammar concepts according to the third type of word orientation]. In Gal'perin P.Ya., Talyzina N.F. (eds.), Zavisimost' obucheniya ot tipa orientirovochnoi deyatel'nosti [The dependence of learning on the type of orienting activity]. Moscow: MGU Publ., 1966, pp. 42—80. (In Russ.).

3. Aleksandrova E.I. Matematika [Mathematics]. In Vorontsov A.B. (ed.), Sbornik primernykh programm dlya nachal'noi obshcheobrazovatel'noi shkoly [A collection of sample programs for an elementary comprehensive school]. Moscow: Vita-press, 2011, pp. 290—328. (In Russ.).

4. Aleksandrova E.I. Matematika. 1 klass. Uchebnik [Mathematics. First Grade. Textbook]. Part 1. Moscow: BINOM. Laboratoriya znanii, 2019. 160 p. (In Russ.).

5. Arginskaya, I.I., Kormishina S.N. Matematika. 1—4 klassy [Mathematics 1-4 grades]. Moscow: Razvivayushchee obuchenie, 2016. 58 p. (In Russ.).

6. Asmolov, A.G., Burmenskaya, G.V., Volodarskaya, I.A., Salmina, N.G., Molchanov S.V. Kak proektirovat' universal'nye uchebnye deistviya v nachal'noi shkole [How to Design Universal Learning Activities in Primary School]. Moscow: Publ. Prosveshchenie, 2008. 151 p. (In Russ.).

7. Bantova, M.A., Bel'tyukova, G.V., Volkova S.I. et al. Matematika. Metodicheskie rekomendatsii. 1 klass [Maths. Guidelines. 1 class.]. Moscow: Prosveshchenie, 2017. 112 p. (In Russ.).

8. Bashmakov, M.I., Nefedova M.G. Matematika. 1 klass: uchebnik [Mathematics. Grade 1: textbook]. Moscow: Astrel', 2019. 125 p. (In Russ.).

9. Bashmakov M.I., Nefedova M.G. Obuchenie v 1 klasse po uchebniku "Matematika" M.I. Bashmakova, M.G. Nefedovoi [Teaching in 1st grade according to the textbook "Mathematics" by M.I. Bashmakova, M.G. Nefedova]. Moscow: Astrel', 2013. 318 p. (In Russ.).

10. Beloshistaya A.V. Metodika obucheniya matematike v nachal'noi shkole. Kurs lektsii [Methods of teaching mathematics in primary school. Lecture course]. Moscow: VLADOS, 2007. 455 p. (In Russ.).

11. Vygotskii L.S. Myshlenie i rech': psikhologicheskie issledovaniya [Thinking and Speaking: Psychological Research]. Moscow-Leningrad: Sotsekgiz, 1934. 324 p. (In Russ.).

Литература

1. *Айдарова Л.И.* Психологические проблемы обучения младших школьников русскому языку. М.: Педагогика, 1978. 144 с.

2. *Айдарова Л.И.* Формирование некоторых понятий грамматики по третьему типу ориентировки в слове / Зависимость обучения от типа ориентировочной деятельности // Под ред. П.Я. Гальперина, Н.Ф. Талызиной. М.: Изд-во Московского университета, 1966. С. 42—80.

3. *Александрова Э.И.* Математика / Сборник примерных программ для начальной общеобразовательной школы // Под ред. А.Б. Воронцова. М.: Вита-пресс, 2011. С. 290—328.

4. *Александрова Э.И.* Математика. 1 класс. Учебник. Книга 1. М.: БИНОМ. Лаборатория знаний, 2019. 160 с.

5. *Аргинская И.И., Кормишина С.Н.* Математика. 1—4 классы. М.: Развивающее обучение, 2016. 58 с.

6. *Асмолов А.Г., Бурменская Г.В., Володарская, И.А., Салмина, Н.Г., Молчанов С.В.* Как проектировать универсальные учебные действия в начальной школе // Под ред. А.Г. Асмолова. М.: Просвещение, 2008. 151 с.

7. *Бантова М.А., Бельтюкова Г.В., Волкова С.И. и др.* Математика. Методические рекомендации. 1 класс. М: Просвещение, 2017. 112 с.

8. *Башмаков М.И., Нефедова М.Г.* Математика. 1 класс: учебник. В 2 ч. М: Астрель, 2019. 125 с.

9. *Башмаков М.И., Нефедова М.Г.* Обучение в 1 классе по учебнику «Математика» М.И. Башмакова, М.Г. Нефедовой. М.: Астрель, 2013. 318 с.

10. *Белошистая А. В.* Методика обучения математике в начальной школе. Курс лекций. М.: ВЛАДОС, 2007. 455 с.

11. *Выготский Л. С.* Мышление и речь: психологические исследования. М.;Л.: Соцэкгиз, 1934. 324 с.

12. *Выготский Л.С.* Психология развития ребенка. М.: ЭКСМО, 2004.

13. *Высоцкая Е.В., Рехтман И.В.* Два подхода к построению учебного предмета по третьему типу ориентировки и выбор «основных единиц» (на материале химии) // Культурно-историческая психология. 2012. № 4. С. 42—54.

14. *Гальперин П.Я., Георгиев Л.С.* К вопросу о формировании начальных математических понятий. Сообщение I. Психологический анализ современной методики обучения начальным математическим понятиям // Доклады академии педагогических наук РСФСР. 1960. № 1. С. 31—36.

15. *Гальперин П.Я., Талызина Н.Ф.* Формирование начальных геометрических понятий на основе

12. Vygotskii L.S. Psikhologiya razvitiya rebenka [Child development psychology]. Moscow: EKSMO, 2004, pp. 327—348. (In Russ.).

13. Vysotskaya, E.V., Rekhtman I.V. Dva podkhoda k postroeniyu uchebnogo predmeta po tret'emu tipu orientirovki i vybor «osnovnykh edinits» (na materiale khimii) [Two approaches to the construction of a subject according to the third type of orientation and the choice of "basic units" (based on chemistry)]. Kul'turno-istoricheskaya psikhologiya = Cultural-Historical psychology, 2012, no. 4, pp. 42—54. (In Russ.).

14. Gal'perin, P.Ya., Georgiev L.S. K voprosu o formirovanii nachal'nykh matematicheskikh ponyatii. Soobshchenie I. Psikhologicheskii analiz sovremennoi metodiki obucheniya nachal'nym matematicheskim ponyatiyam [On the question of the formation of initial mathematical concepts. Post I. Psychological analysis of modern teaching methods of initial mathematical concepts]. Doklady akademii pedagogicheskikh nauk RSFSR [Reports of the Academy of Pedagogical Sciences of the RSFSR], 1960, no. 1, pp. 31—36. (In Russ.).

15. Gal'perin, P.Ya., Talyzina N.F. Formirovanie nachal'nykh geometricheskikh ponyatii na osnove organizovannogo deistviya uchashchikhsya [Formation of initial geometric concepts based on the organized action of students]. Voprosy psikhologii [Issues of psychology], 1957, no. 1, pp. 28—44. (In Russ.).

16. Gal'perin P.Ya. Razumnost' deistvii i predmet nauki [Reasonableness' of actions and the subject of science]. Moscow: Publ. Institut prakticheskoi psikhologii, Voronezh: NPO Modek, 1998, pp. 318—332. (In Russ.).

17. Gal'perin P.Ya. Lektsii po psikhologii [Lectures in psychology]. Moscow: Knizhnyi dom «Universitet»: Vysshaya shkola, 2002. 400 p. (In Russ.).

18. Gorbov, S.F., Mikulina, G.G., Savel'eva O.V. Obuchenie matematike. 1 klass [Teaching mathematics. 1 class]. Moscow: VITA-PRESS, 2008. 128 p. (In Russ.).

19. Davydov, V.V., Gorbov, S.F., Mikulina, G.G., Savel'eva O.V. Matematika [Mathematics]. In Vorontsov A.B. (ed.), Sbornik primernykh programm dlya nachal'noi obshcheobrazovatel'noi shkoly [A collection of sample programs for an elementary comprehensive school]. Moscow: VITA-PRESS, 2011, pp. 278—289. (In Russ.).

20. Davydov V.V. Ob obrazovanii nachal'nogo ponyatiya chisla u rebenka [On the formation of the initial concept of a number in a child]. Doklady akademii pedagogicheskikh nauk RSFSR [Reports of the Academy of Pedagogical Sciences of the RSFSR], 1957, no. 2, pp. 51—54. (In Russ.).

21. Davydov V.V. Vidy obobshcheniya v obuchenii [Types of generalization in teaching]. Moscow: INTOR, 2000. (In Russ.).

22. Dorofeev, G.V., Mirakova T.N. Matematika. Metodicheskie rekomendatsii. 1 klass [Maths. Guidelines. 1 class]. Moscow: Prosvshchenie, 2020. 145 p. (In Russ.).

23. Zinchenko P.I. Neproizvol'noe zapominanie [Involuntary memorization]. Moscow: Publ. Akademii pedagogicheskikh nauku RSFSR, 1961. 564 p. (In Russ.).

24. Leont'ev A.N. Ovladenie uchashchimisya nauchnymi ponyatiyami kak problema pedagogicheskoi psikhologii [Mastering by students of scientific concepts as a problem of educational psychology]. In Leont'ev, D.A., Leont'ev A.A. (eds.), Psikhologicheskie osnovy razvitiya rebenka i obucheniya [Psychological foundations of child development and learning]. Moscow: Smysl, 2003, pp. 316—352. (In Russ.).

25. Moro, M.I., Volkova, S.I., Stepanova S.V. Matematika. 1 klass. Uchebnik dlya obshcheobrazovatel'nykh organizatsii. Chast' 1 [Maths. Grade 1. Textbook for educational

16. organizovannogo deistviya uchashchikhsya // Voprosy psikhologii. 1957. № 1. S. 23—44.

16. *Гальперин П.Я.* Разумность действий и предмет науки. М.: Институт практической психологии; Воронеж: НПО «Модек», 1998. С. 318—332.

17. *Гальперин П.Я.* Лекции по психологии. М.: Книжный дом «Университет»: Высшая школа, 2002. 400 с.

18. *Горбов С.Ф., Микулина Г.Г., Савельева О.В.* Обучение математике. 1 класс. М.: ВИТА-ПРЕСС, 2008. 128 с.

19. *Давыдов В.В., Горбов С.Ф., Микулина Г.Г., Савельева О.В.* Математика // Сборник примерных программ для начальной общеобразовательной школы / Под ред. А.Б. Воронцова. М.: ВИТА-ПРЕСС, 2011. С. 278—289.

20. *Давыдов В.В.* Об образовании начального понятия числа у ребенка // Доклады академии педагогических наук РСФСР. 1957. № 2. С. 51—54.

21. *Давыдов В.В.* Виды обобщения в обучении. М.: Пед. о-во России, 2000. 478 с.

22. *Дорофеев Г.В., Миракова Т.Н.* Математика. Методические рекомендации. 1 класс. М.: Просвещение, 2014. 128 с.

23. *Зинченко П.И.* Непроизвольное запоминание. М.: Изд-во Академии педагогических науку РСФСР, 1961. 562.с.

24. *Леонтьев А.Н.* Овладение учащимися научными понятиями как проблема педагогической психологии / Психологические основы развития ребенка и обучения // Под ред. Д.А. Леонтьева, А.А.Леонтьева. М.: Смысл, 2003. С. 316—352.

25. *Моро М.И., Волкова С.И., Степанова С.В.* Математика. 1 класс. Учебник для общеобразовательных организаций: в 2 ч. Часть 1. М.: Просвещение, 2020.

26. *Моро М.И., Волкова С.И., Степанова С.В.* Математика. 1 класс. Учебник для общеобразовательных организаций: в 2 ч. Часть 2. М.: Просвещение, 2020. 112 с.

27. *Никола Г., Талызина Н.Ф.* Формирование общих приемов решения арифметических задач / Управление познавательной деятельностью учащихся // Под ред. П.Я. Гальперина, Н.Ф. Талызиной. М.: Изд-во Московского университета, 1972. С. 209—261.

28. *Павлова В.В.* Сравнительный анализ инновационных технологий обучения с позиций деятельностного подхода: дисс. канд. психол. наук. М.: МГУ, 2008.

29. *Пантина Н.С.* Формирование двигательного навыка письма в зависимости от типа ориентировки в задании // Вопросы психологии. 1957. № 4. С. 117—132.

30. *Петерсон Л.Г.* Математика. 1 класс: метод. рекомендации. М.: Ювента, 2014. 265 с.

31. *Петерсон Л.Г.* Математика. 1—4 классы (система «Учусь учиться» Л.Г. Петерсон). М.: БИНОМ. Лаборатория знаний, 2019. 224 с.

32. *Полякова Н.Я.* Дидактико-методические требования к учебнику развивающего типа. М.; Самара. 2001. С. 91—103.

33. *Салмина Н.Г., Сохина В.П.* Опыт программированного обучения арифметике. Сообщение 1. О принципах построения экспериментальной программы начального курса арифметики // Новые исследования. 1966. № VIII.

34. *Салмина Н.Г., Сохина В.П.* О содержании экспериментальной программы начального курса арифметики. Сообщение II. Формирование представлений о мере, образовании множеств и сравнении // Новые исследования. 1969. № XIII. С. 13—17.

35. *Сиднева А.Н.* Проблема учения в педагогической психологии: диалектика естественного и нормативного // Вопросы психологии. 2016. № 1. С. 79—85.

organizations. Part 1]. Moscow: Prosveshchenie, 2020. 128 p. (In Russ.).

26. Moro, M.I., Volkova, S.I., Stepanova S.V. Matematika. 1 klass. Uchebnik dlya obshcheobrazovatel'nykh organizatsii. Chast' 2 [Maths. Grade 1. Textbook for educational organizations. Part 2]. Moscow: Prosveshchenie, 2020. 112 p. (In Russ.).

27. Nikola, G., Talyzina N.F. Formirovanie obshchikh priemov resheniya arifmeticheskikh zadach [Formation of general techniques for solving arithmetic problems]. In Gal'perin P.Yu., Talyzina N.F. (eds.), Upravlenie poznavatel'noi deyatel'nost'yu uchashchikhsya [Management of cognitive activity of students]. Moscow: MGU Publ., 1972, pp. 209—261. (In Russ.).

28. Pavlova V.V. Sravnitel'nyi analiz innovatsionnykh tekhnologii obucheniya s pozitsii deyatel'nostnogo podkhoda. Diss. kand. psikhol. nauk [Comparative analysis of innovative teaching technologies from the position of the activity approach. Dr. Sci. (Psychology) diss.]. Moscow: MGU, 2008. (In Russ.).

29. Pantina N.S. Formirovanie dvigatel'nogo navyka pis'ma v zavisimosti ot tipa orientirovki v zadanii [Formation of motor writing skills depending on the type of orientation in the task]. Voprosy psikhologii [Issues of psychology], 1957, no. 4, pp. 117—132. (In Russ.).

30. Peterson L.G. Matematika. 1 klass. Metodicheskie rekomendatsii [Maths. 1 class. Guidelines]. Moscow: Yuventa, 2014. 265 p. (In Russ.).

31. Peterson L.G. Matematika. 1—4 klassy (sistema «Uchus' uchit'sya» L.G.Peterson) [Maths. Grades 1—4 (system "Learning to learn" L.G. Peterson)]. Moscow: BINOM. Laboratoriya znanii, 2019. 224 p. (In Russ.).

32. Polyakova N.Ya. Didaktiko—metodicheskie trebovaniya k uchebniku razvivayushchego tipa [Didactic and methodological requirements for a developmental textbook.]. Moscow: Samara, 2001, pp. 91—103. (In Russ.).

33. Salmina, N.G., Sokhina V.P. Opyt programmirovannogo obucheniya arifmetike. Soobshchenie 1. O printsipakh postroeniya eksperimental'noi programmy nachal'nogo kursa arifmetiki [Experience in programmed teaching arithmetic. Message 1. On the principles of constructing an experimental program for an initial course in arithmetic]. Novye issledovaniya [New research], 1966, no. VIII, pp. 7—11. (In Russ.).

34. Salmina, N.G., Sokhina V.P. O soderzhanii eksperimental'noi programmy nachal'nogo kursa arifmetiki. Soobshchenie II. Formirovanie predstavlenii o mere, obrazovanii mnozhestv i sravnenii [On the content of the experimental program of the elementary course in arithmetic. Message II. Formation of ideas about measure, formation of sets and comparison]. Novye issledovaniya [New research], 1969, no. XIII, pp. 13—17. (In Russ.).

35. Sidneva A.N. Problema ucheniya v pedagogicheskoi psikhologii: dialektika estestvennogo i normativnogo [The problem of teaching in educational psychology: dialectics of natural and normative.]. *Voprosy psikhologii* [*Issues of psychology*], 2016, no. 1, pp. 79—85. (In Russ.).

36. Trofimenko Yu.V., Tikhonenko A.V., Rusinova M.M., Nalesnaya S. Teoreticheskie i metodicheskie osnovy izucheniya matematiki v nachal'noi shkole [Theoretical and methodological foundations of the study of mathematics in primary school]. Rostov-na-Donu: Feniks, 2008. 349 p.

37. Federal'nyi gosudarstvennyi obrazovatel'nyi standart nachalnogo obshchego obrazovaniya [Federal state educational standard of primary general education]. Moscow: Ministerstvo prosveshchenie RF. URL: https://fgos.ru/ (Acessed 28.10.2020). (In Russ.).

36. *Трофименко Ю.В., Тихоненко А.В., Русинова М.М., Налесная С.* Теоретические и методические основы изучения математики в начальной школе. Ростов н/Д: Феникс, 2008. 349 с.

37. Федеральный государственный образовательный стандарт основного общего образования [Электронный ресурс] // Федеральные государственные образовательные стандарты. М.: Министерство просвещение РФ. URL: https://fgos.ru/ (дата обращения: 15.11.2021).

38. *Sidneva A.N., Vysotskaya E.V., Korotaeva I.V., Mozharovsky I.L., Shinelis V.A.* How Do Primary Schoolchildren Use Concept Definitions in Recognition Tasks? Orientation Towards Given Knowledge in Two Different Educational Systems // Psychology in Russia: State of the Art. 2020. Vol. 2. C. 29—46. DOI:10.11621/pir.2020.0203

38. Sidneva A.N., Vysotskaya E.V., Korotaeva I.V., Mozharovsky I.L., Shinelis V.A. How Do Primary Schoolchildren Use Concept Definitions in Recognition Tasks? Orientation Towards Given Knowledge in Two Different Educational Systems. *Psychology in Russia: State of the Art*, 2020. Vol. 2, pp. 29—46. DOI:10.11621/pir.2020.0203

Information about the authors

Anastasia N. Sidneva, PhD in Psychology, senior scientific researcher, Department of Educational Psychology and Pedagogics, Faculty of Psychology, Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/ 0000-0002-9815-9049, e-mail: asidneva@yandex.ru

Информация об авторах

Сиднева Анастасия Николаевна, кандидат психологических наук, старший научный сотрудник кафедры психологии образования и педагогики факультета психологии, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация, ORCID: https://orcid.org/ 0000-0002-9815-9049, e-mail: asidneva@yandex.ru

Self-defining Memories in the System of Self-Memory Interfunctional Relationships

Veronika V. Nurkova
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-3117-3081, e-mail: Nourkova@mail.ru

The aim of this paper is to extend the field of research in cultural-historical psychology by assimilating the construct of self-defining autobiographical memories (SDMs), which are in high demand among cognitive psychologists of personality. On the one hand, SDMs reflect one's core motivation, personal traits, and leading goals. On the other hand, SDMs serve as a means of forming a sense of personal identity and continuity within one's individual history. In the literature review, evidence supporting the SDM construct's validity was critically appraised through the lenses of individual differences, correlations with other variables, clinical cases, and experimental results on causal links between SDM transformation and various measures of personality. The Self-Memory System model (SMS), which connects autobiographical memory and the self, is discussed as a pertinent framework for interpreting SDM's unique properties. The argument ends with the proposition that the cultural-historical approach would benefit from accommodating SDMs as an ideal mediator of interfunctional relationships, both inside personality and between personality and cognitive processes.

Keywords: self-defining memories, autobiographical memory, self-memory system, personality, interfunctional relationships, psychological system.

Самоопределяющие автобиографические воспоминания в системе личностно-мнемических межфункциональных связей

В.В. Нуркова
Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), Российская академия народного хозяйства и государственной службы при Президенте РФ (ФГБОУ ВО «РАНХиГС»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-3117-3081, e-mail: Nourkova@mail.ru

Целью данной статьи является расширение номенклатуры психологических явлений, анализируемых в контексте методологии культурно-исторического подхода, за счет ассимиляции крайне востребованного в зарубежной когнитивной психологии личности конструкта самоопределяющих воспоминаний (СОВ). СОВ представляют собой специфическую категорию автобиографических воспоминаний. С одной стороны, СОВ являются отражением ядерной мотивации личности, ее устойчивых черт и ведущих целей. С другой стороны, СОВ выступают средствами формирования идентичности и преемственности личной истории. В обзоре литературы доказательства, подтверждающие значимость конструкта СОВ, критически рассматриваются через призму индивидуальных различий, корреляций с другими психологическими переменными, клинических случаев и экспериментальных данных о причинно-следственных зависимостях между изменением СОВ и различ-

ными аспектами функционирования личности. Модель самореференционной мнемической системы, связывающая автобиографическую память и личность, обсуждается в качестве наиболее адекватной теоретической рамки для интерпретации уникальных характеристик СОВ. В заключение статьи обосновывается, что для развития культурно-исторического подхода продуктивен анализ СОВ как идеального средства выстраивания межфункциональных связей внутри подсистем личности, а также между личностью и когнитивными процессами.

Ключевые слова: самоопределяющие воспоминания, автобиографическая память, самореференционная мнемическая система, личность, межфункциональные связи, психологическая система.

The Problem of Mutual Mediation of the Higher Mental Functions

Vygotsky defined the notion of the "psychological system" as "the complex connections that develop between different functions in the process of development" [3, p. 110]. This notion constitutes the theoretical core of cultural-historical psychology. The holistic psychological system is continually updated by acquiring new, higher mental functions (HMFs). The newly-acquired HMF integrates into the existing system by building inter-functional relationships, which together cope with new tasks, overcoming the initial call to a cultural practice that stood at the beginning of learning.

The idea that one psychological function, when involved in a "system of cooperating functions" [5, p. 16], can serve as a means of implementing the other was embodied by Vygotsky in the example of the intellectualization of memory in ontogeny. He wrote, "What is absorbed directly by memory in direct remembering is absorbed in mediated remembering with the aid of several mental operations that may have nothing in common with memory itself. What we find here, then, might be viewed as a substitution of certain mental functions for others." [4, pp. 392, 394]. Yet another even more radical case refers to the integration of thinking and speech, with the result that "at a certain point, the two lines cross: thinking becomes verbal and speech intellectual." [4, p. 105].

Vygotsky formulated the possibility of psychological systems employing the products of HMFs as an ideal means of regulating other HMFs. One case of the above-described inter-functional relationships is the "Kaffir dream" [3, p.117], where the dreamer actively uses his dream to solve a daily problem that has been postponed until the dream provides the correct answer. Vygotsky assigned great importance to this line of research. He emphasized it both publicly — "systems and their fate — it seems to me that for us the alpha and omega of our next work must reside in these four words" [3, p. 131], and in private notes — "the basis of concrete psychology — a relationship of the type: 'the dream of the Kaffir.'" [6, p. 59].

To date, specific forms of inter-functional cooperation remain insufficiently explicated and, therefore, are under-investigated. Further research is needed to identify psychological systems allowing the self-regulation of one's own mental activity and behavior ("auto-stimulation" in Vygotsky's terms), which operate as the interaction of high-level personal-cognitive functions. The present study is based on the research program proposed earlier in the framework of the cultural-historical psychology of autobiographical memory [10]. Below, I transpose the idea of mediating inter-functional connections to a new class of HMF. The purpose of this study is to analyze self-defining autobiographical memories (SDM) as an ideal means of structuring and regulating personality.

The Construct of "Self-defining" Autobiographical Memories in Contemporary Cognitive Psychology of Personality

Although Singer introduced the term "self-defining autobiographical memories" (SDM) [51], the idea of a specific projective category of personal memories can be traced back to the framework of Adler's theory [1]. Like subsequent representatives of the psychoanalytic approach [40], Adler considered early childhood memories to be the most informative for understanding adult personality. According to this view, the poor

memory traces of distant experiences, combined with their minimum verifiability, make these memories optimal materials for the projection of lifestyle and enduring concerns.

However, in contrast to the psychoanalytic tradition, Singer objected to limiting SDM to childhood memories and emphasized the active role of consciousness in SDM formation and retrieval [49]. Accordingly, the standard procedure of SDM assessment implies a direct request to describe a memory that expresses the core of one's personality [46]. Typically participants are instructed to select those memories: (1) whose temporal distance from the present is at least 12 months (to be sure that they are integrated into autobiographical memory); (2) that evoke strong feelings, either positive or negative (to indicate the relevance to actual motivation); (3) that can be vividly represented (to experience subjective confidence); (4) that have been thought about many times (to indicate the inclusion in the psychological repertoire); and (5) that connect to other events on similar themes (to access the top position in the "semantic bunch" of autobiographical memories, see for details 9).

The authors use a set of slightly different procedures in search of memories manifesting the "true self," keeping the similar presumption of subjective control over selecting adequate mnemonic content. For instance, Hess [27] asked participants to imagine a mental photo album holding the few most important shots. Correspondingly, McDarby and colleagues [36] asked for memories that were considered representative after their own deaths.

SDMs are endowed with outstanding psychological phenomena. Researchers dealing with SDMs consider them as a unit of personality, combining personal traits and goals that intervin with each other through semantic links. These units can provide sufficient material for understanding personality.

In light of Silvan Tomkins' script theory [54], SDMs are scripts generalized from a series of similar life experiences, where affective amplification between basic emotions and the target objects is always a feature. The list of possible target objects and the exact emotions associated with them were not predefined and were revealed inductively for each case.

Following Tomkins's theory, Demorest [21] identified a taxonomy of emotion-eliciting SDM plots. She performed a hierarchical cluster analysis of SDMs associated with love, joy, sadness, anger, and fear, resulting in 12 categories of events. The major ones derived from the cluster analysis included affiliation, accomplishment, fun, physical challenge, the unknown, trauma, harm to the loved ones, separation from the loved ones, romantic break-up, failed expectations, let down by others, and

cruelty. Although each category may be linked to any emotion, emotion-eliciting events could be grouped by frequent associations being stable at the one-month retest [22]. Thorne and McLean [53] reduced the variety of SDM themes into the categories of 1) relationship, 2) achievement/mastery, 3) recreation/exploration, 4) life-threatening events, and 5) guilt/shame. This minimal classification is now the most popular in coding SDM content, although in my opinion, it leads to missing important nuances of personal meaning.

Among the other discussed characteristics of SDM are the degree of specificity, emotional valence indicating progress in goal achievement, and meaning-making (autobiographical reasoning), which explicitly reveals the connection between the retrieved episode and one's personality [48; 26].

Pasupathi et al. [45] empirically found four possible self-event relations in SDM narratives: 1) explaining or illustrating the vital traits of personality by SDM experience (explain); 2) framing of personality through self-contradictory narrative, when narrated SDM at first evokes trivial implication and then dismissed this implication (dismissal); 3) expressing how experiences had changed one's sense of self (cause); and 4) revealing a previously possessed, but unrecognized, quality (reveal). While both "explain" and "dismiss" relations support a stable diachronic sense of self, "cause" and "reveal" links express a change in the self.

McLean and Fournier [38], building on McAdams' three-level model of personality [34], drew a distinction between three self-event connections in SDMs. According to McAdams' theory, personality comprises three levels: traits, adaptations, and life stories, which together constitute narrative identity. Similarly, the authors linked dispositional SDM connections to trait levels. They referred to value/outlook connections, focusing on morality, beliefs, and general attitudes toward the world, to the level of adaptation. Finally, personal growth connections represent the entire life story.

McAdams [35] differentiated the two types of plots in SDM. The first, the redemption sequence in SDMs, is a narrative form with a disadvantaged situation at the outset, leading to a positive outcome. Second, the contamination sequence is a narrative form with an advantageous situation at the outset, leading to a negative outcome. Notably, more complicated plots, e.g. the "double redemption" or the "double contamination," are still overlooked in the studies on SDMs.

Lardi and colleagues [29] attempted to find correspondence between the numerous parameters of SDMs mentioned above. Employing the k-means cluster analysis method, they revealed two contrasting profiles of

SDMs. Participants with the first profile generated general redemptive SDMs including meaning-making passages. Participants with the second profile described episodic-like SDMs involving fewer meaning-making passages and fewer themes of conflict. Appreciating their efforts, I would state that it is still much to learn how these profiles match personal, cognitive, and behavioral individual differences.

Another significant gap in SDM studies is the SDM-motivation link. One may suppose that thematic and formal diversity in SDMs reflect a highly complex and heterarchical motivation structure. In contrast, a monotonous repertoire of SDMs mirrors the poor hierarchical structure of motivation. As participants are typically asked to provide a fixed number of SDMs, no data are available to examine this hypothesis.

SDMs in Perspective of Differential and Development Psychology

The correlational approach indicated a list of significant relationships between the most commonly coded SDM features (e.g., affect, structure, meaning, and content) and personality characteristics and behavioral variables. Relevant researchers have detected these relationships, in both general and specific populations.

Blagov et al. [14] linked SDM features to the five-factor model domains and revealed the following correlations: neuroticism positively correlates to negative affect and overgenerality in conjunction with the contamination plot of SDM; extraversion positively linked to positive affect and meaning-making; conscientiousness positively links to high specificity; and agreeableness positively links to positive affect. Yet another study demonstrated the link between openness to latitude and volume of associative links of SDMs [29]. Notably, the authors operationalized openness not only by the questionnaire but also by measuring behavioral responses to viewing emotionally disturbing videos.

The studies identified a specific combination of SDM characteristics predicting psychopathological outcomes, which I coined as "negative quadriad." It combines low scores for specificity, positivity, meaning-making, and addressing personal achievements/mastery. The "negative quadriad" was detected in drug addicts [25], alcoholics, and patients with an asocial personality disorder. It was shown that the "negative quadriad" conjoins with a tendency to retrieve SDMs from early childhood (which may refer to infantilism) [30]. Alcohol addicts complement the "negative quadriad" by exuberant emotions and focus on interpersonal relationships [20, 41]. This pattern

seems to disclose the frustration of affiliation motivation and striving to compensate for event deficits during the alcohol abuse period through childhood memories [2; 12]. I would propose that narrative meaning-making operates as an independent component of the "negative quadriad." Presumably, it reflects a way of approaching core personal concerns. In accordance with this hypothesis, decreased levels of specificity and positive affect were observed in participants with anorexia nervosa. Meanwhile, anorexic participants focused their meaning-making process and contamination plots on life-threatening events, illnesses, and sexual abuse [15].

There is substantial interest in age-relevant differences in SDMs. Although no studies have examined premature forms of SDMs, it is clear that SDMs originate from parent-child dialogue scaffolding causal relationships between experiences and personality [8; 24]. When involving a child in this kind of dialogue on a regular basis, parents establish a prerequisite for the autobiographical (i.e., individual-historical) aspect of adult consciousness [42].

In its extended form, SDM develops in adolescence, responding to the age-related task of identity achievement [39]. Teenage SDMs typically involve mixed emotions related to the recent past, focusing on personal relationships, first-time experiences, and achievements. These qualities correspond to the leading tasks in adolescence [56].

SDMs change their functions at different stages of human life. As people age, SDMs acquire the highest importance as a resource for resisting age-associated deficits in positive self-identity and narrowing the repertoire of social roles. SDMs have become an essential tool for the diachronic integration of the self. Accordingly, the SDM content in the elderly turns to the distant past with an emphasis on the stability and continuity of personality throughout the life path, while the SDMs of the student population focus on the dynamics of personal changes [37; 50]. Notably, in contrast to the phenomenological reduction of ordinary memories in aging, SDMs maintain a pure and rich phenomenology of mental re-experiencing and time travel, even if they address the very distant past [32].

Self-defining Memories in the M. Conway' Self-Memory System Model

The Self-Memory System model [SMS, 18, 19], which conceptually links autobiographical memory and personality, proposes room for SDM phenomena. The SMS model implies the dynamic interaction of

two structures: the long-term self and the working self. While the working self deals with situational strivings, the long-term self scaffolds a consistent understanding of oneself across the entire lifespan, making possible coherence of personal plans in the long term. Because the interaction between these two may be either congruent or competitive, this model adopts the possibility of dialectic tension.

According to the SMS model, the long-term self consists of an autobiographical knowledge base and a conceptual self, containing self-concept, self-esteem, and values. The autobiographical knowledge base (autobiographical memory) has a hierarchical organization, with the top level of the life story as a whole. Then, the life story is split into life themes (stages, chapters) at a more concrete level. These life themes, in turn, are the top nodes for the lower level of general events, exemplified by numerous life incidents. I should emphasize that these life incidents are phenotypically similar to episodic memories but, in fact, just mimic them (see details on the episodic memory system, that is, a temporal storage of experiences, 9). An episodic record is assigned to be copied into the autobiographical knowledge base only upon selection by both the working and conceptual selves. In contrast to fragile episodic memories that decay in the short term, copies of episodic records that integrate into the autobiographical knowledge base become immune to forgetting. However, SMS claims that the veracity of autobiographical memories is an illusion. Motivation modifies the initial episodic traces at the re-encoding stage to the autobiographical knowledge base, and then at each retrieval stage. Moreover, the autobiographical knowledge base is updated not only by episodic traces of experiences, but also by imagination and future thoughts. Consequently, imagined events may acquire the status of reality [13].

SDMs participate in this model as a specific type of autobiographical memory that directly explicates the conceptual self into consciousness, while having all the features of ordinary incidental memories (life incidents). Therefore, SDMs are subjectively authentic, not so much referring to a specific past event as serving as a metaphor for actual values and motives [47]. In support of this view, Charlesworth et al. [16] demonstrated the elongation of the list of self-descriptive adjectives and an increase in scores on self-concept clarity after performing the SDM task.

SDM may be seen as the basis (lowest point) of a vertical semantic axis penetrating all levels of the autobiographical knowledge base. Thus, it represents the shortest retrieval path among a life story, life chapters, general events, and specific incidents. Consequently,

reflecting on SDM evokes thinking in terms of higher-semantic categories. At the same time, recollecting SDM makes other, chronologically-adjacent ordinary personal memories more accessible and, in this way, activates autobiographical memory as a whole system.

In summary, the SMS model employs SDM as a means of communication between personality structures. Figure 1 presents the SMS model, including the SDM.

Self-defining Memories as a Means of Self-regulation, Self-cognition, and Self-construction

Looking through the lenses of the cultural-historical approach, it is important to stress that SDMs not only inform about the current state of personality, but also actively influence various psychological processes. This idea has been examined in three lines of research: 1) clinical cases of recruiting SDM in psychotherapy, 2) correlational data, and 3) experimental studies with SDM as the independent variable and personality changes as the dependent variable.

The first line of the research involves case studies. For instance, Singer and colleagues [47] described the case of client W., who entered psychotherapy because of significant relational difficulties originating in his impulsive self-destructive behavior. At the outset of therapy, W produced overgeneral SDMs with no meaning making or autobiographical reasoning. These SDMs focused on negative experiences such as his parents' divorce and his sister's death from cancer. The progress in W. therapy consisting of learning to control impulsive actions was found to be associated with an increase in SDM specificity and meaning-making.

In the logic of the second line of the research, Dunlop and Tracy [23] showed that autobiographical reasoning in the SDMs of members of Alcoholics Anonymous serves as a predictor of the duration of alcohol abstinence. Liao et al. [31] noticed a significant relationship between the proportion of positive SDMs (when instructed to recall three memories) with the tendency to give "upward" interpretations of events and evaluate them as highly functional. Correspondingly, the self-reported functionality of SDMs, together with active meaning-making in the process of narration, predicted a high level of self-esteem at a one-year delay. In this regard, it can be concluded that people who are generally satisfied with their life stories tend to use SDMs for introspection, building positive self-concepts. Thomsen et al. [52] showed that the anxiety (but not depressive symptoms), measured

ENVIRONMENT

Working memory

Subjective experience

Episodic memory –

the chronicle of experience

Working Self
- Short-term goals
- Emotional states

Long-term Self

Autobiographical Knowledge Base

Life story

Theme 2 (career)

Theme 1 (family)

Theme n (...)

Theme 3 (hobby)

General memory n

General memory
«Family holydays»

Life incident n

Conceptual Self
- Self-concept
- Self-esteem
- Ideal self
- Values
- Life meanings
- Long-term goals

Self-Defining Memory

Fig. 1. The conceptual Self-Memory System model

10 years prior to the study, predicted negative emotional saturation and the number of "downwards" interpretive patterns in SDMs, which, in turn, predicted the depressive symptoms at the time of assessment. The authors argue for a causal linkage between contaminative negative SDMs and the aggravation of depressive symptoms.

In contrast to the substantial body of clinical cases and correlational research, there are few experimental data on the causal relationship between SDMs and personality.

In one study [55], participants improved their mood after recalling SDMs, which illustrated the positive aspects of self-concepts. This mood-repair effect was observed after viewing a sad video and did not depend on the type of instruction (focus on episodic details versus focus on rational reflection). However, only non-depressed participants achieved this effect. The authors explained it in the light of the SMS model. According to their interpretation, in non-depressive participants, deliberate retrieval of SDM activated the relevant as-

pects of self-concept, which generated positive affective responses that overcame the external triggers of negative emotions. Depression objects to this mechanism in at least two ways. First, the depressive state blurred SDM's phenomenology, provoking a third-person narrative perspective. Therefore, the SDMs in participants with depression were less self-suggestive. Second, quite unexpectedly, the authors considered the null result positive. They built on previous studies that showed that pessimistic mood induction typically engages depressive participants in a circle of ruminations, triggering continuous mood worsening. If so, no mood worsening in depressive participants was taken as employment of SDMs for coping with negative mood induction.

A research group from Southampton University [17] reported a positive effect of the "imagery rescripting" applied to negative SDMs. They detected an increase in self-esteem and a decrease in anxiety one week after the procedure consisting of guided "re-experience" of negative SDM from the perspective of the present day and constructing a dialogue between the participant imagining herself inside the event and in the present.

Building on the theoretical assumption that trait anxiety results from an overabundant discrepancy between ideal and actual selves [33], we empirically tested the hypothesis that trait anxiety can be controlled by enriching the repertoire of available positive SDMs relevant to the most frustrated self-esteem parameters [44].

In our study, high-anxious participants deliberately constructed positive SDMs while experiencing an altered state of consciousness. It was induced by sensorimotor psychosynthesis, a type of Eriksonian non-directive hypnosis. The participants selected SDMs consisting of scenes that were most threatening for their positive self-esteem and then transformed these scenes in a self-enhancing manner. In two control conditions, the participants experienced an altered state of consciousness without reference to SDMs or discussed their concerns with the research assistant. The results revealed a decrease in trait anxiety (assessed by Taylor scale and an objective test of the assessment of time intervals) four months after the experimental intervention exclusively in the target group, proving that acquisition of reconstructed SDMs may affect self-concept.

The Perspective of Self-defining Memory Research in Cultural-Historical Approach

In one previously published paper, I have drawn a distinction between two lines of further development of the cultural-historical approach, termed as "concentrating" and "generalizing" [11]. The adoption of SDM in the research agenda seems beneficial for both lines seems beneficial for both lines, complementing its essential theoretical provisions with new empirical data and promoting further integration of cultural-historical psychology into world science.

The "concentrating" line involves the analysis of SDM as a mediator in forming special inter-functional connections of the "Kaffir dream" type, both between personality subsystems and between personality and cognitive processes. In this vein, SDMs should be considered as specific autobiographical memories mediating other HMFs (self-concept, temporal perspective, voluntary control over motivation, etc.) that help understand the progress of HMF upon internalization. In this context, the most relevant research questions refer to SDM's functions, ideal forms, scaffolding cultural tools, and social practices. Moreover, considering the developmental potential of cultural mediation, it is possible to propose a perspective of "humanitarian technologies" for the qualitative optimization of SDM functioning, including the context of digitalization.

The potential of the "generalizing" line of focusing on SDMs consists of applying cultural-historical methodology for resolving some contradictions and filling gaps now present in the cognitive psychology of SDMs.

Among such prospective growth points for SDM theory is, for example, the age-related development of SDMs, including the potential for functional progress in the elderly. Through the lenses of cultural-historical theory, SDMs are structural reference points that hold on to the unity of diachronic selves. Therefore, it is worth examining SDM's involvement in internalized communication in the hierarchy of self-identities, both synchronically and diachronically [8].

The cultural-historical perspective toward SDM puts a range of novel questions at the forefront. For example, is the functional potential of SDMs limited to motivation, or is it possible to expand their functionality to cognitive tasks? Do different modes of narrating SDMs (e.g., associative or reflexive) determine how they operate in the SMS system? Can SDMs exist in non-narrative forms, such as "mental photographs," that is, symbolic photo-like representations of meaning-making acts [10]? Is it possible to recruit SDMs to evoke altered states of consciousness, such as "compressed life review" known to be a part of extreme experiences of the phenomenon "the whole life flashed before my eyes" [7; 43]? Considering the breadth and novelty of the tasks facing SDM researchers, I insist that full-scale work in this field has just commenced.

References

1. Adler A. Nauka zhit' [Live Science]. Kiev: Port-Royal, 1997, 286 p. (In Russ.).
2. Bratus' B.S. Anomalii lichnosti. Psikhologicheskii podkhod [Anomalies of personality. Psychological approach]. Izd. 2-e, pererab. i dop. Moscow: Nikeya, 2019, 907 p. (In Russ.).
3. Vygotskii L.S. Sobranie sochinenii: v 6 t. T. 1. [*Collected Works: in 6 vol. Vol. 1*]. Moscow: Pedagogika, 1982. 486 p. (In Russ.).
4. Vygotskii L.S. Sobranie sochinenii: v 6 t. T. 2. [*Collected Works: in 6 vol. Vol. 2*]. Moscow: Pedagogika, 1982. 504 p. (In Russ.).
5. Vygotskii L.S. Sobranie sochinenii: v 6 t. T. 6. [*Collected Works: in 6 vol. Vol. 6*]. Moscow: Pedagogika, 1984. 396 p. (In Russ.).
6. Vygotskii L.S. Konkretnaya psikhologiya cheloveka [Concrete human psychology], *Vestnik Moskovskogo universiteta. Seriya 14: Psikhologiya* [*Moscow University Psychology Bulletin. Series 14: Psychology*], 1986, no. 1, pp. 52—66. (In Russ.).
7. Nurkova V.V. Mgnovennyi zhiznennyi obzor. Metafora? Real'nyi mnemicheskii opyt? Retrospektivnyi artefakt? K voprosu o perspektivakh issledovaniya [Momentary life review: a metaphor, an experience or a false memory? Further research perspectives]. *Psikhologicheskie issledovaniya = Psychological Studies (elektronnyi zhurnal)*, 2011, Vol. 18, no. 4, pp. 2. Available at: http://psystudy.ru. (Accessed 15.04.2021). (In Russ.).
8. Nurkova V.V. Samoopredelyayushchie narrativy v razvitii lichnosti [Self-defined Narratives in Personality Development], *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2014, no. 4, pp. 22—30. (In Russ.).
9. Nurkova V.V. Problema netochnosti vospominanii v perspektive mnogokomponentnoi modeli pamyati [Memory discrepancy problem in the long-term multicomponent model of memory]. *Mir psihologii* [*World of Psychology*], 2015, Vol. 81, no. 2, pp. 35—49. (In Russ.).
10. Nurkova V.V. Psikhologiya fotografii. Kulturno-istoricheskiy analiz: monografia [*The Psychology of Photography: Cultural-Historical Analysis*]. Moscow: Yurait Publ., 2019, 473 p. (In Russ.).
11. Nurkova V.V. Evolyutsionnyi povorot kul'turno-istoricheskoi psikhologii i teoriya kognitivnykh gadzhetov: analogi ili gomologi? [The evolutionary turn in cultural-historical psychology and theory of cognitive gadgets: analogies or homologies?], *Voprosy psikhologii* [*Questions in psychology*], 2019, Vol. 65, no. 4, pp. 29—41. (In Russ.).
12. Nurkova V.V., Bodunov E.A. Avtobiograficheskaya pamyat' kak resurs preodoleniya vnutrilichnostnogo konflikta pri alkogolizme [Autobiographical memory as a resource for coping with intrapersonal conflict in alcoholics], *Vestnik Moskovskogo universiteta. Seriya 14: Psikhologiya* [*Moscow University Psychology Bulletin. Series 14: Psychology*], 2014, no. 2, pp. 46—60. (In Russ.).
13. Nurkova V.V., Vasilenko D.A. Sila voobrazheniya i slabost' datirovki: o dvukh istochnikakh iskazhenii v avtobiograficheskoi pamyati [The power of imagination / The weakness of dating: on two origins of autobiographical memory distortion], *Psikhologiya i pravo = Psychology and law*, 2017. Vol. 7, no. 1, pp. 182—192. DOI:10.17759/psylaw.207070115 (In Russ.).
14. *Blagov P.S., Singer J.A., Oost K.M., Goodma, J.A.* Self-defining Memories (Their Affect, Structure, Meaning, and Content) in Relation to Temperament, Trait Domains, and Psychological Adjustment. In press.

Литература

1. *Адлер А.* Наука жить: пер. с англ. и нем. Киев: Port-Royal, 1997. 288 с.
2. *Братусь Б.С.* Аномалии личности. Психологический подход. 2-е изд., перераб. и доп. М.: Никея, 2019. 907 с.
3. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 1. М.: Педагогика, 1982. 486 с.
4. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 2. М.: Педагогика, 1982. 504 с.
5. *Выготский Л.С.* Собрание сочинений: в 6 т. Т. 6. М.: Педагогика, 1984. 396 с.
6. *Выготский Л.С.* Конкретная психология человека // Вестник Московского университета. 1986. № 1. С. 52—66.
7. *Нуркова В.В.* Мгновенный жизненный обзор. Метафора? Реальный мнемический опыт? Ретроспективный артефакт? К вопросу о перспективах исследования [Электронный ресурс] // Психологические исследования: электрон. науч. журн. 2011. Том 18. № 4. С. 2. URL: http://psystudy.ru (дата обращения: 15.04.2021).
8. *Нуркова В.В.* Самоопределяющие нарративы в развитии личности // Психологическая наука и образование. 2014. № 4. С. 22—30.
9. *Нуркова В.В.* Проблема неточности воспоминаний в перспективе многокомпонентной модели памяти // Мир психологии. 2015. Том 81. № 2. С. 35—49.
10. *Нуркова В.В.* Психология фотографии. Культурно-исторический анализ: монография. М.: Изд-во Юрайт, 2019. 437 с.
11. *Нуркова В.В.* Эволюционный поворот культурно-исторической психологии и теория когнитивных гаджетов: аналоги или гомологи? // Вопросы психологии. 2019. Том 65. № 4. С. 29—41.
12. *Нуркова В.В., Бодунов Е.А.* Автобиографическая память как ресурс преодоления внутриличностного конфликта при алкоголизме // Вестник Московского университета. Серия 14: Психология. 2014. № 2. С. 46—60.
13. *Нуркова В.В., Василенко Д.А.* Сила воображения и слабость датировки: о двух источниках искажений в автобиографической памяти [Электронный ресурс] // Психология и право. 2017. Вып. 7. № 1. С. 182—192. DOI:10.17759/psylaw.207070115
14. *Blagov P.S., Singer J.A., Oost K.M., Goodma, J.A.* Self-defining Memories (Their Affect, Structure, Meaning, and Content) in Relation to Temperament, Trait Domains, and Psychological Adjustment. In press.
15. *Castellon P., Sudres J.-L., Voltzenlogel V.* Self-defining memories in female patients with anorexia nervosa // European Eating Disorders Review. 2020. Issue 5. P. 513—524. DOI:10.1002/erv.2739
16. *Charlesworth L.A., Allen R.J., Havelka J., Moulin C.J.* Who am I? Autobiographical retrieval improves access to self-concepts // Memory. 2016. Vol. 24. № 8, . P. 1033—1041. DO I:10.1080/09658211.2015.1063667
17. *Çili S., Pettit S., Stopa L.* Impact of imagery rescripting on adverse self-defining memories and post-recall working selves in a non-clinical sample: a pilot study // Cognitive Behaviour Therapy. 2017. Vol. 46. № 1. P. 75—89. DOI:10.1080/16506073.2016.1212396
18. *Conway M.A., Singer J.A., Tagini A.* The self and autobiographical memory: Correspondence and coherence // Social cognition. 2004. Vol. 22. № 5 (Special issue). P. 491—529. DOI:10.1521/soco.22.5.491.50768
19. *Conway M.A., Justice L.V., D'Argembeau A.* The Self-Memory System Revisited. The organization and structure of autobiographical memory // The Organization and Structure

15. Castellon P., Sudres J.L., Voltzenlogel V. Self-defining memories in female patients with anorexia nervosa. *European Eating Disorders Review*, 2020. Issue 5, pp. 513—524. DOI:10.1002/erv.2739

16. Charlesworth L.A., Allen R.J., Havelka J., Moulin C.J. Who am I? Autobiographical retrieval improves access to self-concepts. *Memory*, 2016. Vol. 24, no. 8, pp. 1033—1041. DOI:10.1080/09658211.2015.1063667

17. Çili S., Pettit S., Stopa L. Impact of imagery rescripting on adverse self-defining memories and post-recall working selves in a non-clinical sample: a pilot study. *Cognitive Behaviour Therapy*, 2017. Vol. 46, no. 1, pp. 75—89. DOI:10.1080/16506073.2016.1212396

18. Conway M.A., Singer J.A., Tagini A. The self and autobiographical memory: Correspondence and coherence. *Social cognition*, 2004. Vol. 22, no. 5 (Special issue), pp. 491—529. DOI:10.1521/soco.22.5.491.50768

19. Conway M.A., Justice L.V., D'Argembeau A. The Self-Memory System Revisited. The organization and structure of autobiographical memory. In J.H.Mace (Ed.) The Organization and Structure of Autobiographical Memory. New York: Oxford University Press, 2019. pp. 28—50.

20. Cuervo-Lombard C., Raucher-Chéné D., Barrière S., Van der Linden M., Kaladjian A. Self-defining memories in recently detoxified alcohol-dependent patients. *Psychiatry research*, 2016. Vol. 246, pp. 533—538. DOI:10.1016/j.psychres.2016.09.040

21. Demorest A.P. A taxonomy for scenes. *Journal of Research in Personality*, 2008. Vol. 42, no. 1, pp. 239—246. DOI:10.1016/j.jrp.2007.05.004

22. Demorest A., Popovska A., Dabova M. The Role of Scripts in Personal Consistency and Individual Differences. *Journal of Personality*, 2012. Vol. 80, no. 1, pp. 187—218. DOI:10.1111/j.1467-6494.2011.00727.x

23. Dunlop W.L., Tracy J.L. The autobiography of addiction: Autobiographical reasoning and psychological adjustment in abstinent alcoholics. *Memory*, 2013. Vol. 21, no. 1, pp. 64—78. DOI:10.1080/09658211.2012.713970

24. Fivush R. The development of autobiographical memory. *Annual review of psychology*, 2011. Vol. 62, pp. 559—582. DOI:10.1146/annurev.psych.121208.131702

25. Gandolphe M.C., Duprez C., Enault F., Seyeux O., Brunelle E., Duparcq J.P., Nandrino J.L. Compromises of integration, specificity and emotional content of self-defining memories in patients with opioid-use disorder. *Memory*, 2019. Vol. 27, no. 5, pp. 637—646. DOI:10.1080/09658211.2018.1548624

26. Habermas T. Autobiographical reasoning: Arguing and narrating from a biographical perspective. *New directions for child and adolescent development*, 2011. Vol. 131, no. 1, pp. 1—17. DOI:10.1002/cd.285

27. Hess R.K. The Psychophysiology of Self-Defining Memories: Unpublished dissertation. New London, Connecticut, Connecticut College, 2009. 74 p.

28. Houle I., Philippe F.L., Lecours S., Roulez J. Networks of self-defining memories as a contributing factor to emotional openness. *Cognition and Emotion*, 2018. Vol. 32, no. 2, pp. 363—370. DOI:10.1080/02699931.2017.1284045

29. Lardi C., D'Argembeau A., Chanal J., Ghisletta P., Van der Linden M. Further characterisation of self-defining memories in young adults: A study of a Swiss sample. *Memory*, 2010. Vol. 18, no. 3, pp. 293—309. DOI:10.1080/09658211003601522

30. Lavallee A., Gandolphe M.C., Saloppé X., Ott L., Pham T., Nandrino J.L. Characterisation of self-defining memories in criminals with antisocial personality disorder. *Memory*, 2020. Vol. 28, no. 9, pp. 1123—1135. DOI:10.1080/09658211.2020.1818785

of Autobiographical Memory / Ed. by J.H. Mace. New York: Oxford University Press, 2019. P. 28—50.

20. *Cuervo-Lombard C., Raucher-Chéné D., Barrière S., Van der Linden M., Kaladjian A.* Self-defining memories in recently detoxified alcohol-dependent patients // Psychiatry research. 2016. Vol. 246. P. 533—538. DOI:10.1016/j.psychres.2016.09.040

21. *Demorest A.P.* A taxonomy for scenes // Journal of Research in Personality. 2008. Vol. 42. № 1. P. 239—246. DOI:10.1016/j.jrp.2007.05.004

22. *Demorest A., Popovska A., Dabova M.* The Role of Scripts in Personal Consistency and Individual Differences // Journal of Personality. 2012. Vol. 80. № 1. P. 187—218. DOI:10.1111/j.1467-6494.2011.00727.x

23. *Dunlop W.L., Tracy J.L.* The autobiography of addiction: Autobiographical reasoning and psychological adjustment in abstinent alcoholics // Memory. 2013. Vol. 21. № 1. P. 64—78. DOI:10.1080/09658211.2012.713970

24. *Fivush R.* The development of autobiographical memory // Annual review of psychology. 2011. Vol. 62. P. 559—582. DOI:10.1146/annurev.psych.121208.131702

25. *Gandolphe M.C., Duprez C., Enault F., Seyeux O., Brunelle E., Duparcq J.P., Nandrino J.L.* Compromises of integration, specificity and emotional content of self-defining memories in patients with opioid-use disorder // Memory. 2019. Vol. 27. № 5. P. 637—646. DOI:10.1080/09658211.2018.1548624

26. *Habermas T.* Autobiographical reasoning: Arguing and narrating from a biographical perspective // New directions for child and adolescent development. 2011. Vol. 131. № 1. P. 1—17. DOI:10.1002/cd.285

27. *Hess R.K.* The Psychophysiology of Self-Defining Memories: Unpublished dissertation. New London, Connecticut, Connecticut College, 2009. 74 p.

28. *Houle I., Philippe F.L., Lecours S., Roulez J.* Networks of self-defining memories as a contributing factor to emotional openness // Cognition and Emotion. 2018. Vol. 32. № 2. P. 363—370. DOI:10.1080/02699931.2017.1284045

29. *Lardi C., D'Argembeau A., Chanal J., Ghisletta P., Van der Linden M.* Further characterisation of self-defining memories in young adults: A study of a Swiss sample // Memory. 2010. Vol. 18. № 3. P. 293—309. DOI:10.1080/09658211003601522

30. *Lavallee A., Gandolphe M.C., Salopp X., Ott L., Pham T., Nandrino J.L.* Characterization of self-defining memories in criminals with antisocial personality disorder // Memory. 2020. Vol. 28. № 9. P. 1123—1135. DOI:10.1080/09658211.2020.1818785

31. *Liao H.W., Bluck S., Westerhof G.J.* Longitudinal relations between self-defining memories and self-esteem: Mediating roles of meaning-making and memory function // Imagination, cognition and personality. 2018. Vol. 37. № 3. P. 318—341. DOI:10.1177/0276236617733840

32. *Martinelli P., Piolino P.* Self-defining memories: last episodic memories bastion in normal aging? // Psychologie & Neuropsychiatrie du vieillissement. 2009. Vol. 7. № 3. P. 151—167. DOI:10.1684/pnv.2009.0178

33. *Mason T.B., Smith K.E., Engwall A., Lass A., Mead M., Sorby M., Bjorlie K., Strauman T.J., Wonderlich S.* Self-discrepancy theory as a transdiagnostic framework: A meta-analysis of self-discrepancy and psychopathology // Psychological Bulletin. 2019. Vol. 145. № 4. P. 372—389. DOI:10.1037/bul0000186

34. McAdams D.P. What do we know when we know a person? // Journal of Personality. 1995. Vol. 63. № 3. P. 365—396. DOI:10.1111/j.1467-6494.1995.tb00500.x

35. *McAdams D.P., Reynolds J., Lewis M., Patten A.H., Bowman P.J.* When bad things turn good and good things

31. Liao H.W., Bluck S., Westerhof G.J. Longitudinal relations between self-defining memories and self-esteem: Mediating roles of meaning-making and memory function. *Imagination, cognition and personality*, 2018. Vol. 37, no. 3, pp. 318—341. DOI:10.1177/0276236617733840

32. Martinelli P., Piolino P. Self-defining memories: last episodic memories bastion in normal aging? *Psychologie & Neuropsychiatrie du vieillissement*, 2009. Vol. 7, no. 3, pp. 151—167. DOI:10.1684/pnv.2009.0178

33. Mason T.B., Smith K.E., Engwall A., Lass A., Mead M., Sorby M., Bjorlie K., Strauman T.J., Wonderlich S. Self-discrepancy theory as a transdiagnostic framework: A meta-analysis of self-discrepancy and psychopathology. *Psychological Bulletin*, 2019. Vol. 145, no. 4, pp. 372—389. DOI:10.1037/bul0000186

34. McAdams D.P. What do we know when we know a person? *Journal of Personality*, 1995. Vol. 63, no. 3, pp. 365—396. DOI:10.1111/j.1467-6494.1995.tb00500.x

35. McAdams D.P., Reynolds J., Lewis M., Patten A.H., Bowman P.J. When bad things turn good and good things turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students. *Personality and social psychology bulletin*, 2001. Vol. 27, no. 4, pp. 474—485. DOI:10.1177/0146167201274008

36. McDarby M., Mroz E., Bluck S., Carpenter B. How Will I Be Remembered? Reflection on Virtues in Self-Defining Memories Across Adulthood. *Innovation in Aging*, 2020. no. 4 (Suppl 1), pp. 418.

37. McLean K.C. Stories of the young and the old: Personal continuity and narrative identity. *Developmental Psychology*, 2008. Vol. 44, no. 1, pp. 254—264. DOI:10.1037/0012-1649.44.1.254

38. McLean K.C., Fournier M.A. The content and processes of autobiographical reasoning in narrative identity. *Journal of Research in Personality*, 2008. Vol. 42, no. 3, pp. 527—545. DOI:10.1016/j.jrp.2007.08.003

39. McLean K.C., Thorne A. Late adolescents' self-defining memories about relationships. *Developmental psychology*, 2003. Vol. 39, no. 4, pp. 635—645. DOI:10.1037/0012-1649.39.4.635

40. Mosak H.H., Di Pietro R. Early recollections: Interpretive method and application. New York, London: Routledge, 2007. 364 p.

41. Nandrino J.L., Gandolphe M.C. Characterization of self-defining memories in individuals with severe alcohol use disorders after mid-term abstinence: The impact of the emotional valence of memories. *Alcoholism: Clinical and Experimental Research*, 2017. Vol. 41, no. 8, pp. 1484—1491. DOI:10.1111/acer.13424

42. Nelson K., Fivush R. The development of autobiographical memory, autobiographical narratives, and autobiographical consciousness. *Psychological reports*, 2020. Vol. 123, no. 1, pp. 71—96. DOI:10.1177/0033294119852574

43. Nourkova V.V. Compressed life review: Extreme manifestation of autobiographical memory in eye-tracker. *Behavioral Sciences*, 2020. Vol. 10, no. 3, pp. 1—12. DOI:10.3390/bs10030060

44. Nourkova V.V., Vasilenko D.A. On the advantage of autobiographical memory pliability: implantation of positive self-defining memories reduces trait anxiety. *Memory*. 2018, Vol. 26, no. 7, pp. 869—881. DOI:10.1080/09658211.2017.1420195

45. Pasupathi M., Mansour E., Brubaker J.R. Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development*, 2007. Vol. 50, no. 2—3, pp. 85—110. DOI:10.1159/000100939

turn bad: Sequences of redemption and contamination in life narrative and their relation to psychosocial adaptation in midlife adults and in students // Personality and social psychology bulletin. 2001. Vol. 27. № 4. P. 474—485. DOI:10.1177/0146167201274008

36. *McDarby M., Mroz E., Bluck S., Carpenter B.* How Will I Be Remembered? Reflection on Virtues in Self-Defining Memories Across Adulthood // Innovation in Aging. 2020. № 4 (Suppl 1). P. 418.

37. *McLean K.C.* Stories of the young and the old: Personal continuity and narrative identity // Developmental Psychology. 2008. Vol. 44. № 1. P. 254—264. DOI:10.1037/0012-1649.44.1.254

38. *McLean K.C., Fournier M.A.* The content and processes of autobiographical reasoning in narrative identity // Journal of Research in Personality. 2008. Vol. 42. № 3. P. 527—545. DOI:10.1016/j.jrp.2007.08.003

39. *McLean K.C., Thorne A.* Late adolescents' self-defining memories about relationships // Developmental psychology. 2003. Vol. 39. № 4. P. 635—645. DOI:10.1037/0012-1649.39.4.635

40. *Mosak H.H., Di Pietro R.* Early recollections: Interpretive method and application. New York; London: Routledge, 2007. 364 p.

41. *Nandrino J.L., Gandolphe M.C.* Characterization of self-defining memories in individuals with severe alcohol use disorders after mid-term abstinence: The impact of the emotional valence of memories // Alcoholism: Clinical and Experimental Research. 2017. Vol. 41. № 8. P. 1484—1491. DOI:10.1111/acer.13424

42. *Nelson K., Fivush R.* The development of autobiographical memory, autobiographical narratives, and autobiographical consciousness // Psychological reports. 2020. Vol. 123. № 1. P. 71—96. DOI:10.1177/0033294119852574

43. *Nourkova V.V.* Compressed life review: Extreme manifestation of autobiographical memory in eye-tracker // Behavioral Sciences. 2020. Vol. 10. № 3. P. 1—12. DOI:10.3390/bs10030060

44. *Nourkova V.V., Vasilenko D.A.* On the advantage of autobiographical memory pliability: implantation of positive self-defining memories reduces trait anxiety // Memory. 2018. Vol. 26. № 7. P. 869—881. DOI:10.1080/09658211.2017.1420195

45. *Pasupathi M., Mansour E., Brubaker J.R.* Developing a life story: Constructing relations between self and experience in autobiographical narratives // Human Development. 2007. Vol. 50. № 2—3. P. 85—110. DOI: 10.1159/000100939

46. *Singer J.A.* Memories that matter: How to use self-defining memories to understand & change your life. Oakland: New Harbinger Publications, 2005. 195 p.

47. *Singer J.A., Blagov P., Berry M., Oost K.M.* Self-defining memories, scripts, and the life story: Narrative identity in personality and psychotherapy // Journal of personality. 2013. Vol. 81. № 6. P. 569—582. DOI: 10.1111/jopy.12005

48. *Singer J.A., Bluck S.* New perspectives on autobiographical memory: The integration of narrative processing and autobiographical reasoning // Review of General Psychology. 2001. Vol. 5. № 2. P. 91—99. DOI:10.1037/1089-2680.5.2.91

49. *Singer J.A., Conway M.A.* Reconsidering therapeutic action: Loewald, cognitive neuroscience and the integration of memory's duality // The International Journal of Psychoanalysis. 2011. Vol. 92. № 5. P. 1183—1207. DOI:10.1111/j.1745-8315.2011.00415.x

50. *Singer J., Rexhaj B., Baddeley J.* Older, wiser, and happier? Comparing older adults' and college students' self-defining memories // Memory. 2007. Vol. 15. № 8. P. 886—898. DOI:10.1080/09658210701754351

46. Singer J.A. Memories that matter: How to use self-defining memories to understand & change your life. Oakland: New Harbinger Publications, 2005. 195 p.

47. Singer J.A., Blagov P., Berry M., Oost K.M. Self-defining memories, scripts, and the life story: Narrative identity in personality and psychotherapy. *Journal of personality*, 2013. Vol. 81, no. 6, pp. 569—582. DOI:10.1111/jopy.12005

48. Singer J.A., Bluck S. New perspectives on autobiographical memory: The integration of narrative processing and autobiographical reasoning. *Review of General Psychology*, 2001. Vol. 5, no. 2, pp. 91—99. DOI:10.1037/1089-2680.5.2.91

49. Singer J.A., Conway M.A. Reconsidering therapeutic action: Loewald, cognitive neuroscience and the integration of memory's duality. *The International Journal of Psychoanalysis*, 2011. Vol. 92, no. 5, pp. 1183—1207. DOI:10.1111/j.1745-8315.2011.00415.x

50. Singer J., Rexhaj B., Baddeley J. Older, wiser, and happier? Comparing older adults' and college students' self-defining memories. *Memory*, 2007. Vol. 15, no. 8, pp. 886—898. DOI:10.1080/09658210701754351

51. Singer J.A., Saltzberg E., Yatim D. Self-defining memories: A subtype of autobiographical memory. Presented at the annual convention of the Eastern Psychological Association, Boston, MA, March 1989.

52. Thomsen D.K., Matthiesen S., Frederiksen Y., Ingerslev H.J., Zachariae B., Mehlsen M.Y. Trait anxiety predicts the emotional valence of meaning-making in life stories: A 10-year prospective study. *Personality and Individual Differences*, 2016. Vol. 102, no. 1, pp. 51—55. DOI:10.1016/j.paid.2016.06.059

53. Thorne A., McLean K.C. Manual for coding events in self-defining memories. Unpublished manuscript. University of California, Santa Cruz, 2001. 23 p.

54. Tomkins S. S. Script theory. In J. Aronoff, A.I. Rabin, R.A. Zucker (eds.) The emergence of personality. New York: Springer, 1987. pp. 147—216.

55. Werner-Seidler A., Moulds M.L. Recalling positive self-defining memories in depression: The impact of processing mode. *Memory*, 2014. Vol. 22, no. 5, pp. 525—535. DOI:10.108 0/09658211.2013.801494

56. Wood W.J., Conway M. Subjective impact, meaning making, and current and recalled emotions for self-defining memories. *Journal of personality*, 2006. Vol. 74, no. 3, pp. 811—846. DOI:10.1111/j.1467-6494.2006.00393.x

51. *Singer J.A., Saltzberg E., Yatim D.* Self-defining memories: A subtype of autobiographical memory // Presented at the annual convention of the Eastern Psychological Association, Boston, MA, March 1989.

52. *Thomsen D.K., Matthiesen S., Frederiksen Y., Ingerslev H.J., Zachariae B., Mehlsen M. Y.* Trait anxiety predicts the emotional valence of meaning-making in life stories: A 10-year prospective study // Personality and Individual Differences. 2016. Vol. 102. № 1. P. 51—55. DOI: 10.1016/j.paid.2016.06.059

53. *Thorne A., McLean K.C.* Manual for coding events in self-defining memories // Unpublished manuscript. University of California, Santa Cruz. 2001. Vol. 11. № 4. P. 235—250.

54. *Tomkins S.S.* Script theory // The emergence of personality / Ed.by J. Aronoff, A. I. Rabin, R. A. Zucker. New York: Springer, 1987. P. 147—216.

55. *Werner-Seidler A., Moulds M.L.* Recalling positive self-defining memories in depression: The impact of processing mode // Memory. 2014. Vol. 22. № 5. P. 525—535. DOI:10.10 80/09658211.2013.801494

56. *Wood W.J., Conway M.* Subjective impact, meaning making, and current and recalled emotions for self-defining memories // Journal of personality. 2006. Vol. 74. № 3. P. 811—846. DOI:10.1111/j.1467-6494.2006.00393.x

Information about the authors
Veronika V. Nourkova, Doctor of Science (Psychology), Professor of the Faculty of Psychology, Lomonosov Moscow State University, Senior researcher, Institute for Social Sciences, RANEPA, Moscow, Russia, ORCID: https://orcid.org/0000-0002-3117-3081, e-mail: Nourkova@mail.ru

Информация об авторах
Нуркова Вероника Валерьевна, доктор психологических наук, профессор факультета психологии, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени М.В. Ломоносова»), ведущий научный сотрудник Школы антропологии будущего Института социальных наук, Российская академия народного хозяйства и государственной службы при Президенте РФ (ФГБОУ ВО «РАНХиГС»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-3117-3081, e-mail: Nourkova@mail.ru

Generations Attitudes from the Point of View of a Modern Primary School Age Child

Zhanna M. Glozman
Lomonosov Moscow State University, Moscow, Russia
ORCID: https://orcid.org/0000-0002-7736-0819, e-mail: glozman@mail.ru

Valentina A. Naumova
Kamchatka State University named after V. Bering, Petropavlovsk-Kamchatsky, Russia
ORCID: https://orcid.org/0000-0001-9643-1048, e-mail: naumovavalentina2011@mail.ru

The work is aimed at studying the current attitude towards the ageing person by the generation of "digital childhood" in comparison with the expectations of representatives of the late-age generation. We assumed that, against the background of modern transformations of intergenerational traditions, we can expect descendants to recognize the preservation of the standard of ancestral behavior. 284 residents of Petropavlovsk-Kamchatsky were surveyed: 40 respondents from 57 to 80 years old and 122 child-parent dyads (children from 8,2 to 9.6 years old, parents from 27 to 61 years old). At the first stage, data were obtained from parents using the author's questionnaire allowing them to present their opinion about the real state of the relationship between children and their grandparents and the importance of (non-) participation of grandparents in the upbringing of their grandchildren. At the second stage, the analysis of the interviews in the focus groups of schoolchildren and a gerontological sample concretized attitudes towards a person of senior age and allowed independent experts to identify relevant categories (based on content analysis). At the third stage, options for reflecting the (non-)consent of the older generation with children's judgments were investigated. The results were evaluated on the Likert scale. It is shown that, despite the significant choice of children's attitude as condescending compassion, in the range of consent of the expected attitude, children's variants of continuity of preserving the experience of obligatory and valuable behavior of the grandparents are presented. The data obtained emphasize the problem of recognizing the uniqueness of the experience of each generational group as a source of generational solidarity and the basis of cultural adaptation to age.

Keywords: younger schoolchildren, digital childhood, the late-age generation, to "regret" and "understand-respect", the standard of ancestral behavior.

Отношения поколений: представления современного ребенка младшего школьного возраста

Ж.М. Глозман
Московский государственный университет имени М.В. Ломоносова
(ФГБОУ ВО «МГУ имени М.В. Ломоносова»), г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-7736-0819 ,e-mail: glozman@.ru

В.А. Наумова

Камчатский государственный университет имени Витуса Беринга
(ФГБОУ ВО «КамГУ имени В. Беринга»), г. Петропавловск-Камчатский, Российская Федерация
ORCID: https://orcid.org/0000-0001-9643-1048, e-mail: naumovavalentina2011@mail.ru

Работа направлена на изучение актуального отношения к стареющему человеку у поколения «цифрового детства» в сопоставлении с ожиданиями представителей поколения позднего возраста. Мы предположили, что, на фоне современных трансформаций межпоколенных традиций, можно ожидать признания потомками сохранение эталона поведения предков. Обследованы 284 жителей г. Петропавловск-Камчатский: 40 респондентов от 57 до 80 лет и 122 детско-родительских диад (дети от 8,2 до 9,6 лет, родители — от 27 до 61 года). На первом этапе у родителей с помощью авторской анкеты были получены данные, позволяющие представить их мнение о реальном состоянии взаимоотношений детей с прародителями и важности (не)участия бабушек/дедушек в воспитании внуков. На втором этапе анализ интервью в фокус-группах школьников и геронтологической выборке конкретизировал отношения к человеку позднего возраста и позволил независимым экспертам выделить релевантные категории (на основе контент-анализа). На третьем этапе исследовались варианты отражения(не)согласия старшего поколения с детскими суждениями. Результаты оценивались по шкале Лайкерта. Показано, что, несмотря на значимый выбор детского отношения как нейтрально-снисходительного сострадания, в диапазоне согласия ожидаемого отношения представлены детские варианты преемственности сохранения опыта обязательного и ценного поведения прародителей. Полученные данные акцентируют проблему признания уникальности опыта каждой поколенной группы как источника солидарности поколений и основы культурной адаптации к возрасту.

Ключевые слова: младшие школьники, цифровое детство, поколение позднего возраста, категории «жалеть» и «понимать—уважать», эталон поведения предков.

> Respect for parents and elders is the basis of humanitarianism
> *Confucius*

> Be careful with children! One day they will rule the world!
> *A. Brilliant*

Introduction

The peculiarities of relationship between ancestors and descendants have always been and remain one of the topical research problems of psychological science. It is known that human society exists and develops thanks to the interaction of generations. It is safe to say that human civilization has survived largely due to the possibility of passing on to new generations the experience accumulated by previous generations, thereby simultaneously ensuring the implementation of opportunities and traditions of the social community. The continuum of this construct is in demand both in the process of functioning of everyday life needs and in the reconstruction of the accumulated experience of the previous generation to support and build up a new layer of ways of interconnection with rising descendants. In different epochs, the nature of relationship between ancestors and descendants was determined by the specificity of society's development.

Today the world is rapidly changing, representing the lives of contemporaries in a highly accelerated pace and radical socio-economic and cultural transformation of society (globalisation, digital informatisation, etc.).

The present reality also demonstrates qualitative changes in the demographic structure: increase in life expectancy, changes in the boundaries and ratios of age groups, emergence of new age stages — "digital childhood", entering adulthood, increase in the stage of productive professional activity, as well as the emergence of productive post-professional life [1; 21; 23]. According to demographic data, today's Russia is characterized by three or often four generations (children — parents — grandparents — great-grandparents). We agree with the researchers who suggest that modern intergenerational

relations are a wide layer of interactions determined by the features of generational identity (perceptions, values, orientation, etc.) [22].

It is especially important in a situation when "humanity has to adapt forcibly to the new world which is transformed before our eyes from vertical to horizontal" where the normative model of a clear opposition between "digital childhood as a special historical type of childhood" [18, p. 71—72] and adulthood as a standard, "an image of its necessary future" [15, p. 5] is weakening. In addition, it is important to note that today information and computer technologies are able to act as an agent of child socialization, which, in fact, is a serious competition to the institutions of socialization [17; 18; 19].

It is a fact that an adult is no longer a unique bearer of culture, the intensity of the child's communication with adults and with other children is decreasing, and the efficiency of traditional practices of care and education is becoming ambiguous.

These days there has also been a radical new "discovery" of gerontogenesis, the shift from an image of old age as a time of dependence and decline to the concept of active ageing, which is certainly a significant cultural change [3]. In the literature, we can more often find versions of the representation of ageing in the concept of "successful old age" and the "paradox" of modern old age: with increasing age subjective well-being can be maintained and/or even improved [12; 37; 38; 39].

However, it should be noted that against the background of the triumph of prosperous and productive old age that undoubtedly takes into account a special nature of long life, the issue of late age negative and rigid stereotypes influence, that, on the one hand, trigger the formation of destructive, dependency-passive behavioral constructs of the ageing person, and on the other hand, the discriminatory neglect of the older generation by the younger ones, still remains highly topical [7; 10; 35]. The presented realities significantly reduce the value basis of intergenerational relations, and contribute to an increase in the distance between the generational cohorts.

At the same time, a number of researches of the younger generation's perceptions of ageing indicate that the images of ageing and old age that lay the foundation for their own ways of ageing and their likely attitudes towards the older generation are initially based on early personal experiences of interaction with their grandparents [21; 30; 40]. Stereotypes about the ageing process and older people in particular are internalized throughout life in two fundamental ways: top-down (from society to individuals) and over time (from childhood to old age) [34]. As people are getting older, stereotypes learned in childhood and adulthood tend to eventually turn into "self-stereotypes", which often lead to negative consequences for older people [33].

We support the view of some researchers that intergenerational interaction and intergenerational solidarity plays an important role in the psychological well-being of both older people and the younger generation [24].

This brief overview makes it clear that it is important and essential to research the specificity of the relationship between ancestors and descendants in the context of contemporary reality.

This fact gives a reason to formulate the aims of the research:

— to analyse the potential experiences of (im)possible interactions between junior schoolchildren and older relatives;

— to explore, on the one hand, the current attitudes of younger school-age children towards the ageing person and, on the other hand, the expected attitudes of the older generation towards them.

Based on the approaches described, we hypothesize that despite the transformation of traditional forms of intergenerational interaction and rapid contemporary changes in the socio-cultural context of intergenerational life, we can expect the preservation of ancestral coping behaviour, which is valued by descendants as the most valuable and compulsory experience.

Research Organization and Methodology

The total sample of the research included 284 respondents: 122 child-parent couples and 40 participants aged between 57 and 80.

The child sample consisted of 122 primary school children aged between 8,2 and 9,6 years (52,5% of girls and 47,5% of boys).

The parental group (84,4% of mothers and 15,6% of fathers) consisted of respondents aged 27 to 61: (42,6% — aged 27—35 years; 53,4% — aged 36—61 years). 52,5 % of the respondents had higher education, 25,5% of the group had secondary professional education, and 31,9% had secondary education. 77,9% of parents informed that they had two-parent families.

Written consent was obtained from the parents for each underage respondent to participate voluntarily in the study. All of the schoolchildren surveyed did not have any serious illnesses, socialization difficulties or problems in cognitive development.

The sample of older respondents consisted of regular gerontological art group participants aged 57 to 80 years: 47,5% — aged 57—65 years; 45% — aged 66—75 years; and 7,5% — aged 76—80 years. Among them, 70% were females and 30% were males; 25% were married, 12,5% were divorced, and 62,5% were widows and widowers. Among the respondents, 22,5% had a higher education, and 77,5% had secondary and secondary professional

education. A total of 47,5% did not work. 17,5% of the respondents lived together with children and/or grandchildren and provided much of the childcare, 57,5%lived separately but communicated and provided occasional help; 25%lived separately but had very limited communication and assistance in the upbringing of their heirs.

An ethical agreement was also signed by the adult participants to make the results of the study available to the professional community.

The research included several stages.

The *first stage* was conducted as part of the preparation for the "International Day for Older Persons", we used the following methods:

— *questionnaire survey* of parents. The questionnaire included both standard questions about the socio-demographic characteristics of the participating parents and all grandparents representing the schoolchildren's family, and a number of questions clarifying the extent to which parents used support from grandparents to care/raise their grandchildren; information about the children's availability of communication / absence of communication with their grandparents; and questions aimed at collecting data on parents' opinions about the importance of (non)participation of the older generation in raising their descendants. It was anticipated that the questionnaire data would provide information about the potential experiences of (im)possible interactions between the participating schoolchildren and older generation relatives.— *focus group interviews* were conducted with 10-12 participants in each of the child and gerontological samples. Data was collected from students at general education schools in Petropavlovsk-Kamchatsky, and at the experimental site of the Vitus Bering State University Centre for Personal Development and Psychological and Pedagogical Assistance to the Population for the cohort of older participants.

The moderators were graduate students of the Faculty for Psychology and Pedagogy at Vitus Bering Kamchatka State University (n=26, aged 21—24). The interviewees were asked the following questions: "How, in your opinion, is it important/necessary/acceptable to treat the elderly and the old?". They were asked to list the possible options. In the subsequent group discussion, answers to the clarifying questions were discussed (e.g. "Why do they think so?", "How can they explain/describe their attitudes?").

The research objective of the *second stage* was to ask independent experts to analyze the responses from the *focus groups.* Data processing was carried out with the use of conventional content analysis (summarizing the responses, identifying quantitative categories and compiling a relevant list of "attitudes towards an ageing person") [15]. The coding of categories was carried out by the authors together with the experts during the group discussion.

The role of experts was performed by extramural students of the Faculty for Psychology and Pedagogy of Vitus BeringKamchatka State University, receiving a second higher education (n = 25, aged 18 to 47).

At the *third stage*, older respondents (n=26, aged 65 to 72) were asked to express their (dis)agreement with the children's judgments of dominant attitudes towards the ageing person. Responses were asked to be rated on a Likert scale ranging from -3 to +3, where 3 indicates strongly agree, 2 — rather agree, 1 — partly agree, 0 — it is difficult to say whether agree or disagree, -1 — partly disagree, -2 — rather disagree, -3 — strongly disagree. Judgments with a mean score of -3 to -1 were rated as reflecting disagreement, those with a score of +1 to +3 as agreeing and a score of < -0.99 to +0.99 were categorized as neutral. A mean score was calculated for each component.

Descriptive statistics, Fisher's transformation test (φ) and Pearson's chi-squared test ($\chi2$) were used for statistical analysis of the data.

Results of the Research

Analysis of the socio-demographic characteristics of the elderly respondents shows that grandmothers (average age 58) with higher or specialized education are significantly more prevalent among the grandparents (Table 1).

There is a noteworthy fact of continued employment for most of the studied cohort with the status of a pensioner. It is important to note that the residents of the Kamchatka peninsula belong to the preferential categories of establishing retirement pension — 51 years and 6 months for women and 56 years and 6 months for men, respectively [14]. At the same time, an analysis of the literature captures evidence that it is the status of official pensioner that often acts as a trigger for "rapprochement" with the grandchildren. Some researchers present data showing that it is grandmothers under 65 years old who combine the opportunity and need to interact with their grandchildren up to the age of 10 or 12 years, which actually reinforces the above-mentioned reflections [4; 9].We believe that arguments about the existing need of an ageing person to receive both pension benefits and wages and/or the importance of maintaining employment in order to maintain quality of life, activity and autonomy independently, can be presented as an explanation of the above contradictions or, rather, as a trend towards them [2]. At the moment, quite often this situation is not an alternative one.

A significantly higher proportion of parents ($p \leq 0.05$) identified the employment of the older generation, the living of grandparents in remote, inaccessible and often informationally isolated locations as a negative region-specific factor limiting communication with grandchildren (Figure 1).

T a b l e 1

Social and Demographic Characteristics of the Older Generation (N=395)

Parameters	Representativeness of grandparents, %		Fisher's criterion φ emp.
	Grandmothers 64,3%	Grandfathers 35,7%	5,51 p≤0,01
Age range			
Aged 46—55	37,4	27,6	2,16 p ≤0,05
Aged 56—75	48,0	58,2	1,95 p ≤0,05
Aged 76 and older	14,6	14,2	0,13
Level of education			
Incomplete secondary education	1,6	2,1	0,26
General secondary education	20,5	31,2	2,31 p≤0,01
Specialized secondary education	35,8	32,6	0,65
Higher education	42,1	34,1	1,67 p ≤0,05
Marital status			
Married	30,3	39,7	2,35 p≤0,01
Divorced	46,7	47,5	0,15
Widow(er)	22,9	12,8	2,52 p≤0,01
Social status			
Employed	64,5	54,6	1,91
Not working	35,5	45,4	1,9

COMMUNICATION OF MY CHILD WITH GRANDPARENTS AND GREATGRANDPARENTS

56,6 % Insufficient

****

29,5% Sufficient

****

13,9 % Absent

****

0 % – Unnecessary

FORMAT OF (IN)SUFFICIENT CHILD – GRANDPARENT COMMUNICATION_____

——

40,6 % – *employment of the older generation;*
59,4 % – *grandparents' living beyond the boundaries of Kamchatka krai or in remote districts of the peninsula*

****

75% – *joint leisure and/or regular accompanying the child to the school (supplementary education centres);*
47, 2% – communication via telephone/skype;
41,6% – joint holidays or long-term trips;
52, 7% – living together
****

42,9% – the older generation is absent;
59,4% – avoidance and/or the adults' conflict
****

Fig. 1. Comparison of the frequency of choices and the format of children's (non)communication with their grandparents

Next, let us analyze other data from the parents' questionnaire. We used the objective data from individual authors in the analysis of the parent questionnaire, confirming the fact that the features of "older and younger parents"

interactions concerning matters of support and care for children depend largely on the type of household [26].

Our study showed that a higher percentage (p≤0.01) of parental choices indicated a trend towards low level of grandparents' involvement in helping and accompanying their grandchildren during their childhood (Figure 2).

At the same time, parents show significantly more frequent choices (p≤0.05) of their responses confirming their beliefs that it is better for grandparents to have limited and/or no involvement in their grandchildren's upbringing.

Thus, the information obtained from the questionnaire data indicates a certain deficit in the potential experience of (im)possible interaction between junior schoolchildren and relatives of the older generation. Unfortunately, our results coincide with the Russian demographic trends of recent years, which gives a reason to speculate about the weakening of intergenerational exchange [6]. Probably, this fact may also indicate the transformation of traditional forms of intergenerational interaction. As a supporting illustration of our data, we can refer to modern publicity, where the facts of increasing demonstration of modern Russian grandparents as "realities of the modern norm" of the role of the "visiting governor or governess" and sporadic recreational activity, combined with material support of grandchildren are increasingly discussed [26, p. 44].

Let us further analyze the *results of the focus group interviews*[1] with children and older respondents.

On the basis of semantic similarity, the experts identified the categories of "attitudes towards the elderly and the old" from the total number of responses (162 younger schoolchildren and 128 older respondents) (Table 2).

A comparative analysis of category representation shows group specificity: respondents of primary school age voiced their attitude towards the older generation in the sequence "pity — respect" significantly more often (p≤0.01), and in the older age cohort it was "understand — respect".

In addition, the categories "understand" and "honour" were found to be irrelevant in the children's sample, and several pupils (their answers are categorized as "do not know") were unable to describe their attitudes to the older person at all. The following arguments were presented as explanations by pupils: lack of personal experience of interaction with the older generation; not understanding (not accepting) the difference between older adults and "other adults"; unattractiveness, boredom and low value of the discussion.

The next step was to carry out a qualitative analysis of the dominant relational categories: for the group of primary school children it was the "pity" category (df= 150, p≤0,01) and in the sample of older generation — the
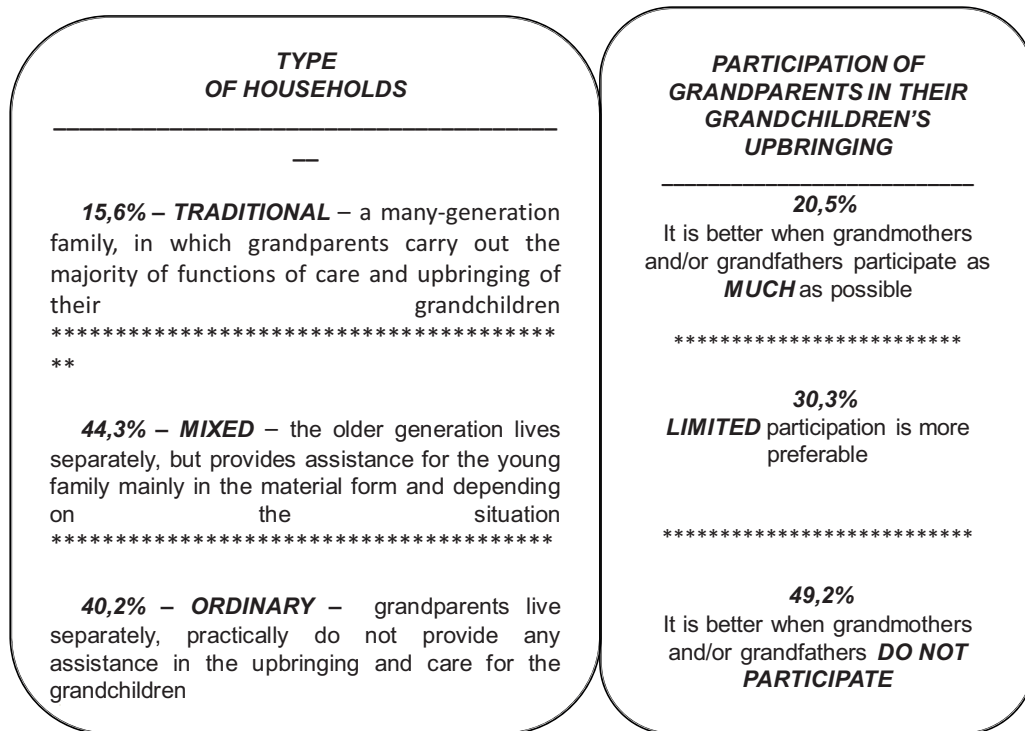

Fig. 2. Comparison of the frequency of selection of family types by degree of use of the grandparents' care/upbringing support

T a b l e   2

Comparison of the "Attitudes" Categories Choice Frequency in the Group of Junior Schoolchildren and Older Respondents

Categories	Choice frequency (the quantity of responses — %)				Fisher's criterion, φ
	Junior schoolchildren (n=122)		Older generation (n=40)		
	Quantity	%	Quantity	%	
Pity	115	70,9	14	10,9	10,8 p≤0,01
Respect	17	10,5	35	27,3	3,1 p≤0,01
Love	13	8,1	9	7,0	0,24
Understand	0	0	37	28,9	9,6 p≤0,01
Honour	0	0	18	14,1	6,5 p≤0,01
Help	8	4,9	10	7,8	1,1
Tolerate	4	2,5	5	3,9	0,7
Do not know	5	3,1	0	0	2,9

categories "understand" (df=25, p≤0,01) and "to respect" (df=20, p≤0,01) based on specifying judgments.

Let us turn to specific examples of answers and the result of their analysis in the group of elementary schoolchildren. 244 explanatory judgments were presented by pupils for 115 choices of "pity": 19,3% of participants gave one example each, 12,7% gave two answers, 10,7% of pupils recorded three options each, 3,3% gave four examples each, and 2% of respondents had five answers.

The experts structured all the answers by components and determined the level of their expression (Table 3).

So, the result of the content analysis of the descriptions of children's attitude of "pity" towards an ageing person demonstrates its multi-value and multi-compo-

T a b l e   3

Frequency Distribution of the Components of the Attitude Category "Pity" in the Group of Elementary Schoolchildren

Frequency of choice, %	Components	Examples of children's responses[2]
1	2	3
38,8	**"Physiological loss"** reflects a descriptive picture of the external manifestations of low physical (bodily) competence and destruction, as well as insecurity and maladjustment to life in old age	'their teeth fall out and they don't chew well, they don't eat much and they stop growing' 'some have amnesia, I don't know what it is, but mum says that a lot', 'they are slow, forget everything and can even be dumb' 'they don't sleep well at night and during the day have a cat-nap, so mum scolds us if we make noise and disturb the old granny, oh actually great granny' 'they have poor health and so they can't do some things themselves, then they get angry and may call you bad names or even punish you. For example, I saw my friend's grandma Ira cursing loudly and hitting the cat because she forgot to close the door to the room with the computer herself.' 'they are old and their eyesight is bad, they walk slowly and if there, for example, they are crossing the road and a car is coming with broken brakes, we have to rush straight to them so that they don't get hit by a car'
12,5	**"It is the way things are done"** demonstrates pupils' commitment to formally following socially accepted notions of stereotypes of old age and norms of behaviour with an adult	*'one just should feel sorry for the elderly, one should be polite to them, shouldn't he or she?'* *'one shouldn't offend the elderly, that's the rule of politeness'* *'they're at the age when all they need is help, sympathy and compassion'* *'they are old and may even be veterans we just have to respect them at least out of politeness, that's what my mother says and I've seen other adults and even children say this on TV'*

[2] We preserved the semantics and grammar of the children's utterances

Frequency of choice, %	Components	Examples of children's responses
1	2	3
11,6	**"Our duty"** explains the child's position as a conscious, voluntary, internally accepted obligation to help, to protect the ageing person	*'they have lived long and fought for our freedom'* *'[they are]elderly veterans, and it's hard for them to bear the hardships of life'* *'they defended our country'* *'many of them are veterans, if it weren't for them we wouldn't exist'* *'they're special to us'* *'they've lived their lives, and maybe some have fought, and we have to pay good for good, we have to help them'* *'it's just that we're younger than them, we should do that'*
11,2	**"Empathy"** demonstrates a child's ability to understand and experience the emotional states experienced by an older person	*'daddy often scolds granny because she tortures him with clever advice. She then cries quietly for a long time, but I always hear and then I cry, I feel very sorry for my grandmother';* *'bus drivers shout at old people because they are slow, it takes a long time to climb the steps. And also when there is a heavy snowstorm they are so wet, they don't smell good, it's difficult for them to walk in the snow and then sweep the snow up to the entrance of the bus, moreover they cannot reach their bodies everywhere. It offends me to watch them being beknaved and laughed at by some children'*
8,9	**"Financial insecurity""** combines statements reflecting children's ideas about the importance and significance of material well-being and the risks of living in old age in cases of disadvantage	*'they don't get paid enough money, they don't have enough money to feed themselves';* *'they don't have enough money or food. They are older than us and poorer than us'* *'they don't earn, so they always have little money for medicine'* *'they can be cheated, their flat can be taken away or they can be kicked out of the house. Old grannies are often homeless, skinny, poorly dressed, smell bad'* *'old people are not in good health and not as well off as my dad, they have a tiny pension'*
8,0	**"The finitude of life"** reflects the students' thoughts, feelings and rather regrets about the imminent impending irrevocability of life's journey	*'they might fall and crash or die altogether'* *'they might become totally ill'* *'they're almost out of strength and they're just a little bit away from death'* *'their heart could stop and then that's it, they don't have any more life'* *'well, because they're old and have to die soon and they've done their schooling and they've done their time and they've lived a long time'*
6,3	**"Gratitude"** represents a picture of a child's sense of gratitude to the older generation for the experience of a long life	*'to live longer and please us'* *'they're the oldest, they can correct mistakes'* *'because they're not young anymore, but they can still be kind'* *'they can always give useful advice'* *'they know much more than we do. We should also pity old people out of gratitude, because they are our parents' parents, or even our great-great-grandparents, which means that if it wasn't for them, we wouldn't exist, and that's for sure'* *'old people are our ancestors'* *'they're older than us, they've conquered trouble or sorrow many times, I think they know how to live right'* *'they have a long age and many interesting stories about it'* *'they like to hear our good attitude towards them'*
2,7	**"Modelling one's old age period"** brings together statements reflecting children's ideas about their lives in old age	*'what if I'm in this situation'* *'if we hurt the elderly, we'll be treated as badly in our old age'* *'because there's no cure for wrinkles and forgetting'* *'I'm not afraid to be that old. I will study well, then I will be a doctor, I will find cream and injections for old people so that they can do different things for themselves for a long time and enjoy themselves'* *'We are also growing and our body is with us, so one day I will be old, I don't want to be hurt'*

nent character. However, statistical significance (df=66, p≤0,05) is determined only for the component that reflects the descriptive picture of external manifestations of low physical (bodily) competence and poor adaptability to life in old age, i.e., "physiological loss".

Now let us turn to the answers explaining the semantic content of the two significantly dominant categories of attitude expected by the older generation — "understand" and "respect". The result of the content analysis of specifying judgments in the indicated categories fixes their identity, which allowed the authors to combine them into the general category "understand — respect", which represents the reflection of attitude on the whole as need for recognition of experience and merits, seeking compromise, ability to empathize and understand the emotional state of the older generation (Table 4).

Table 4

Representation of the "Understand —Respect" Attitude Category in a Gerontological Sample

Frequency of specifying judgments, %	Examples of responses2
39,3 — the need for recognition of one's experience and merits	*'it is important that my grandchildren are proud of me'; 'I am praised by my grandchildren and their friends'; 'getting compliments from young people'*
36,3 — the need for seeking compromise	*'noted for me the possibilities of modernity, familiarity with which would enable me to keep up with the times'; 'well, if they themselves discuss the details of their lives with me, I am happy, and it saves me from DEpression, DEmentia and many other DE-old men, about whom so many scientists write and speak'*
24,4 — ability to empathize and understand the emotional state	*'taking more interest in my emotional stress'; 'letting me admire them, trusting me that I am not the enemy of their happiness and their whole life'; 'so my granddaughter won't be shy about inviting me into her company'*

It seems to us that it is also important to demonstrate examples of responses of the "honour" attitude category, reflecting the expectation of the older generation to have their descendants recognize the importance and respect the life they lived in terms of its heritage ("*be my reflection at least a little bit*", "*keep me in yourself*", "*continue my creation of tatting*", "*will even there, hopefully in heaven, be happy if they keep my cliff, gear and my ice-fishing ritual*")[3].

The next research task was to analyze the extent to which older respondents *(dis)agree* with the statements included in the components of the children's attitude category "regret" (Figure 3).

Older respondents disagreed with children's choice, more frequently with the components "physiological loss" and "it is the way things are done". It is likely that for the adult sample this variant of attitude description is inter-preted as a negative, rather stereotype-traditional attitude towards old age, dominated by a picture of rather disparaging and condescending compassion. The highest agreement score was given by the older participants to such attitude as the child's ability to understand the condition of an ageing person (the "empathy" components) and readiness to express a sense of appreciation to him or her ("gratitude").

Results of Discussion

In this research the authors have attempted to explore possible variants of current and expected attitudes towards an ageing person from the perspective of junior schoolchildren and adults who have reached the stage of gerontogenesis.
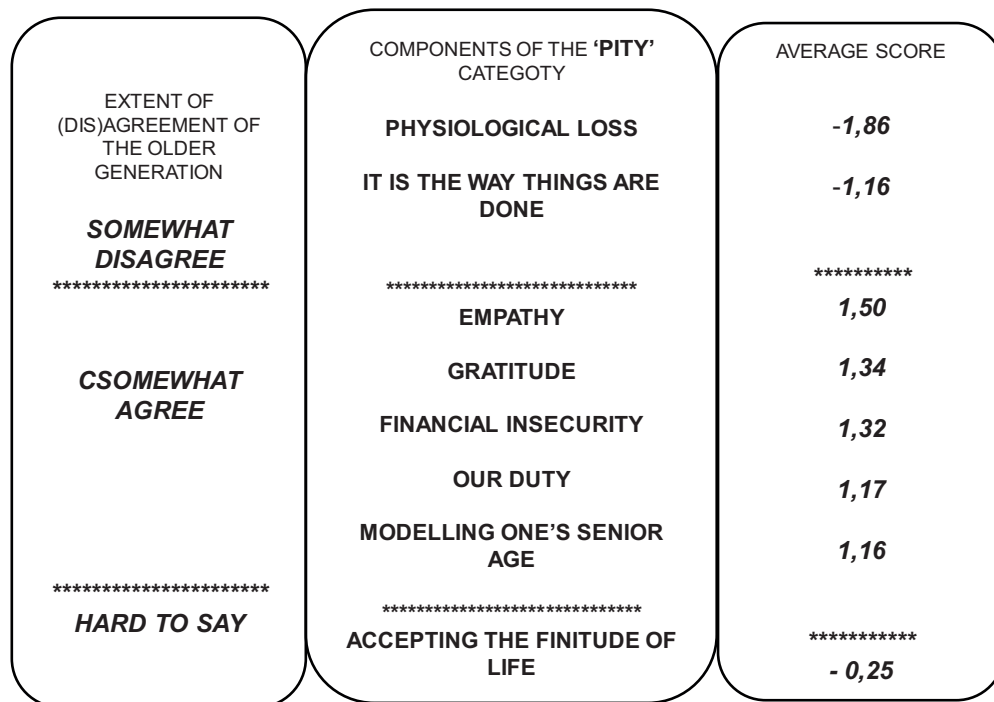
Fig. 3. Ratio of degree of (dis)agreement by older respondents with components of the children's category "pity"

---

[3] The semantics and grammar of the respondents' statements are preserved.

Our research has shown that, on the whole, the respondents in the children's sample represent the picture of actual attitudes towards the elderly rather through the prism of the deficit of potential experience of interaction with their ancestors. A number of arguments can be cited to explain this.

A significant proportion (33,9%) of the grandparents of our sample are not in the range of old age (according to the WHO classification) and it is unlikely that they can fully demonstrate the image of ageing and old age in "their young ancestry".

In addition, earlier in our other researches [12; 36] we recorded the data concerning the fact that in the recent decade the relationship between children and parents in many Kamchatka families had been increasingly optional, which is also reflected in the present study. Thus, more than half of parents indicated insufficient communication between their child and the older generation and 84,5% of "young" families confirmed the fact of existing situational support by their parents, mostly in the material form. Among the dominant factors specifying the deficit of live communication between ancestors and descendants, the respondents noted the objective and forced need to maintain employment of the older generation of retirement age, territorial remoteness and difficult accessibility in conditions of informational isolation. The scarcity and difficulty of communication because of the permanent residence of the older generation "on the mainland" outside the Kamchatka peninsula is difficult to consider as a "respectfully mitigating" factor [11]. We absolutely agree with the opinion of O.Yu. Strizhitskaya, M.D. Petrash that a modern person is mobile enough. Often family generations are geographically separated within one country, may be in different countries and continents, but, however, in the era of high information technology this circumstance may not be an objective limitation of communication between a child and grandparents [21].

The importance and significance of a child's communication with grandparents as one of the dominant factors in forming the image of an ageing person is reflected in some contemporary studies. For example, in the work of A. Flamion et al. (Flamion, et al.,) in a sample of 1,151 Belgian children and adolescents between the ages of seven and sixteen, it was found that frequent and friendly contact with grandparents (more often with grandmothers) correlated with more favorable feelings about older people [31].

The results of another study have shown that for older preschool children with lack of communication with their ancestors, the image of the old person is not personalized and in general represents an assembled construct of "strange old people" or "nobody's old people" more often according to stereotypical signs of physiological loss and indifferent emotions [36].

Here we cannot ignore the fact that in modern society there is a tendency to use all the possibilities and achievements of bio-technology to maintain the state of "anti-aging", where the visual image of a person plays a determining role in the perception of an aging person and has the function of contrasting the experience of long life with physical decay [13; 25].

We also support the researchers' opinion on the role of the family, the significance of the type of family upbringing, the content of communication with significant adults (parents, grandparents) to form a child's value attitude towards the older generation, as well as its future self-esteem and psychological well-being [16; 35]. The necessity of formation of the child's attitude towards senior adults and old age people, as an obligatory part of the "child-adult" system, which can act as a primary basis of all kinds of subsequent relations of the child to reality and be the initial condition of the very human existence and intensions of child development, is emphasized in the classical works of the Russian psychologists [3; 5; 8; 27].

In this study, the need to recognize experience, seek compromise, the ability to empathize and understand one's emotional state during the gerontogenesis stage is prioritized by older respondents to describe their expected attitude through the dominant categories of "understand-respect". It is likely to be extremely problematic to "teach" such a variant of the attitude of descendants to their ancestors, which essentially is supported by the results of the analysis of the responses from the children's sample.

The *relevant attitude* of the elementary schoolchildren to an ageing person is represented through the multi-component category of "pity". In the etymological dictionary of the Russian language the word "pity" is interpreted as frequently used in the meaning of "I love, I respect", denoting the context of value, recognition, reverence and compassion [28]. However, we dare to argue that the results of the content analysis of the descriptions of the dominant relational categories in the children's sample demonstrate attitudes toward the late-age respondents more as neutral-indulgent compassion. The older respondents did not include this children's choice in the range of agreement with expected attitudes toward them.

The junior schoolchildren less frequently presented examples of their ability to understand the condition of an aging person and readiness to express a sense of appreciation and respect for the experience of a long life, which was confirmed by the older cohort as agreement with the expected attitude to them. In our opinion, this result can be explained by the fact that, despite the transformation of traditional forms of intergenerational interaction, many Russian families consciously support intergenerational communication based on the preservation of socio-cultural traditions of several generations,

without losing the 'codes' of priority of cultural dialogue and intergenerational continuity.

We support the opinion of some researchers that the older generation has an enormous potential to demonstrate to descendants the possibilities of "mastering the art of life in the context of developing the ability to inspire themselves and others, create their own rhythm and pace of life, enjoy the live human communication, and in general to build a constructive dialogue with the world" [29, p. 85].

Awareness of the importance and respect for the difference of needs in each period of life, the uniqueness of the experience of relations of generational groups, as valuable and obligatory, can be the key to the partnership dialogue of generations and the basis of cultural adaptation to age. Besides, it is necessary to move from sameness to individuality in order to build sustainable and mutually comfortable intergenerational relations, as well as to define the principles on which a universal cultural adaptation to age can be generated [3].

Conclusions

1. The analysis of the questionnaire data specifying the parents' point of view on the potential experience of their children's interaction with the generation of late age shows a tendency to a low degree of grandparents' participation in the period of their grandchildren's childhood and, in general, represents the picture of deficit of live communication between ancestors and descendants. The reasons for the recorded fact are the territorial remoteness of the older generation, their continued employment, being in the status of a pensioner, and the problems of adult disagreement. Answers of schoolchildren's parents showed that relations between their children and their parents are increasingly optional, where situational financing of grandchildren along with occasional leisure activities are evaluated as a norm of relations, a reality of modern life.

2. The result of focus-group interviews with elementary schoolchildren allows us to present quantitatively the categories of children's attitude towards the older generation in the "pity — respect — love — help — tolerate — don't know" sequence, where only the category "pity" is statistically dominant. Qualitative analysis of the selected category reveals its meaningfulness and multicomponent structure, but statistical significance is revealed by one component, which reflects a descriptive picture of external manifestations of physical incompetence, insecurity and inadaptability to life of an aging person, i.e. "physiological losses". On the whole, a large part of the children's sample demonstrates the actual attitude towards the ancestors as a variant of neutral and indulgent compassion and compliance with formal, stereotypically correct

norms of behavior, relying on the collective image of the "not personalized" person at a late stage of ontogenesis.

3. In the gerontological cohort the *expected* attitude of children to them is represented by the significant category "understand — respect", reflecting the position of extreme importance of recognition of their experience by descendants, search for compromises of interaction, readiness to empathize and to accept the emotional state of the person of late age. This result is also recorded in the data on the agreement of older participants with the children's options (with a low frequency of choice), demonstrating the continuity of the preservation of the standard of obligatory and valuable behavior of the ancestors. Late-age respondents placed components with the highest frequency of children's choices which, from the perspective of the older generation, describe attitudes toward them more as condescending compassion in the range of disagreement.

4. The need and readiness of the aging person to mobilize and realize the enormous palette of his life potential to demonstrate to descendants the particular importance of recognizing the uniqueness of each generation's experience can be a source of complementarity and solidarity between generations as the basis of cultural adaptation to age.

Limitations and Perspectives of the Research

Thinking critically about the results of the presented work, it would be interesting to consider them in the context of the limitations of the research.

So, there was only one parent involved in the child-parent pairing, and for the most part they were mothers. Although some researches confirm a great similarity of children's views with mothers in the field of intergroup relations [30], we admit that the lack of "gender completeness" of the parental sample can reduce the generalization potential of the parents" questionnaire data.

Another limitation of our study is related to the problem of the difficulty of forming a homogeneous sample, including families with equal age ranges in intergenerational representatives and conditional similarity in economic and sociocultural characteristics.

Relative limitations include the specificity of the sample of older respondents, the composition of which was represented by regular participants of the gerontological art group. Possibly, when only voluntary elderly respondents with preserved activity and motivation participate, information about the less active ageing person is lost, and in our opinion, this circumstance allows for the risk of distortion of the research picture.

Finally, we agree with many researchers who believe that intergenerational relations are a multifaceted, multidimensional phenomenon involving different systems

of human relations. The research of separate aspects of this phenomenon also limits the possibility of integral consideration of intergenerational relations [22].

Summarizing all of the above, the authors see the prospect of further research in studying the problem of intergenerational solidarity, both in the family and non-family contexts.

The study of the problem of psychological culture and readiness of the elderly person to a partnership dialogue with the younger descendant can also be relevant.

Another promising area is the possibility of intergenerational cooperation programs focused on the "shaping power" of intergenerational effects and/or intergenerational transmission.

References

1. Ambarova P.A. Obrazovatelnye strategii v structure modeli «uspeshnogo» starenia [Education strategies in the structure of «successful» aging model]. Materialy Tretiey mezhdunarodnogo foruma «Cognitive Neuroscience — 2020» (g. Ekaterinurg, 11—12 dekabrya 2020 g.) [Proceedings of the Third International Forum «Cognitive Neuroscience — 2020»]. Yekaterinburg: Publ. Ural Univ. Press, 2021, pp. 56—60. Available at: https://elar.urfu.ru/handle/10995/95455 (Accessed:10.04.2021). (In Russ.).

2. Barsukov V.N., Shabunova A.A. Trendy izmenenia trudovoy aktivnosti starshego pokolenia v usloviyah starenia naselenia [Trends of changes in labor activity in elderly in conditions of population aging]. *Problemy razvitiya territorii* [*Problems of areas development*], 2018, no. 4(96), pp. 87—103. DOI:10.15838/ptd.2018.4.96.6 (In Russ.).

3. Biggs S., Haapala I. Dolgaya zhizn', vzaimoponimanie i empatia pokoleniy /Per. s angl. A.A. Ipatovoj [Long life, mutual understanding and generations' empathy]. *Monitoring obshchestvennogo mneniya: Ekonomicheskie i social'nye peremeny* [*Monitoring of social opinions: economic and social changes*], 2016. no. 2. pp. 46—58. DOI:10.14515/monitoring.2016.2.03 (In Russ.).

4. Bulanova D.D. Rol' starshego pokoleniya v vospitanii doshkolnikov [The role of older generation in preschoolers upbringing]. *Nauchnoe otrazhenie* [*Scientific reflection*], 2017. no. 4(8), pp. 9—11.(In Russ.).

5. Vygotsky L.S. Psykhologia razvitiya cheloveka [Psychology of human development]. Moscow: Smysl, 2003. 1136 p.(In Russ.).

6. Gorlin Yu.M., Lyashok V.Yu., Maleva T.M. Povysheniye pensionnogo vozrasta: pozitivnye effekty i veroyatnye riski [Prolongation of retirement age: positive effects and possible risks]. *Ekonomicheskaya politika* [*Economic policy*], 2018, no. 1, pp. 148—179. (In Russ.).

7. Yelutina M.E. Chekanova E.E. Socialnaya gerontologia [Social gerontology]. Moscow: Infra, 2004. 157 p. (In Russ.).

8. Zaporozhets A.V. Izbrannye psykhologicheskie trudy [Selected papers]. Moscow: Direct-Media, 2008. 1287 p. (In Russ.).

9. Krasnova O.V. Rol' babushka: sravnitelnyy analis [The role of a grandmother: a comparative study]. *Psihologiya zrelosti i stareniya* [*Psychology of adulthood and elderly*]**,** 2000, no. 2, pp. 89—114. (In Russ.).

10. Krasnova O.V. Eidjism v rabote s pozhilymilud'mi [Ageism in the work with old people]. In O.V. Krasnova, A.G. Liders (eds) *Psikhologia starosti i starenia* [*Psychology of elderly and aging*]. Moscow: ACADEMA, 2003, pp. 354—362. (In Russ.).

11. Kulik A.A. Specifika obraza zhizni ludey, prozhivayushih v slozhnyh klimatogeogrychesykih usloviyah [Specific life of people in difficult climatic and geographic conditions] *Vestnik Kemerovskogo gosudarstvennogo universiteta* [*Journal of Kemerovo State University,* 2020], no. 22(1), pp. 139—151. DOI: 10.21603/2078-8975-2020-22-1-139-151 (In Russ.).

Литература

1. *Амбарова П.А.* Образовательные стратегии в структуре модели «успешного» старения [Электронный ресурс] // Материалы III международного форума «Cognitive Neuroscience—2020» (г. Екатеринург, 11—12 декабря 2020 г.). Екатеринбург: Изд-во Урал. ун-та, 2021. С. 56—60. URL:https://elar.urfu.ru/handle/10995/95455 (дата обращения:10.04.2021).

2. *Барсуков В.Н., Шабунова А.А.* Тренды изменения трудовой активности старшего поколения в условиях старения населения // Проблемы развития территории. 2018. № 4(96). С. 87—103. DOI:10.15838/ptd.2018.4.96.6

3. *Биггз С., Хаапала И.* Долгая жизнь, взаимопонимание и эмпатия поколений / Пер. с англ. А.А. Ипатовой // Мониторинг общественного мнения: Экономические и социальные перемены. 2016. № 2. С. 46—58. DOI:10.14515/monitoring.2016.2.03

4. *Буланова Д.Д.* Роль старшего поколения в воспитании дошкольников // Научное отражение. 2017. № 4 (8). С. 9—11.

5. *Выготский Л.С.* Психология развития человека. М.: Смысл; ЭКСМО, 2003. 1136 с.

6. *Горлин Ю.М., Ляшок В.Ю., Малева Т.М.* Повышение пенсионного возраста: позитивные эффекты и вероятные риски // Экономическая политика. 2018. № 1. С. 148—179.

7. *Елютина М.Э., Чеканова Э.Е.* Социальная геронтология. М.: ИНФРА, 2004. 157 с.

8. *Запорожец А.В.* Избранные психологические труды. М.: Директ-Медиа, 2008. 1287 с.

9. *Краснова О.В.* Роль бабушки: сравнительный анализ // Психология зрелости и старения. 2000. № 2. С. 89—114.

10. *Краснова О.В.* Эйджизм в работе с пожилыми людьми // Психология старости и старения / Сост. О.В. Краснова, А.Г. Лидерс. М.: ACADEMA, 2003. С. 354—362.

11. *Кулик А.А.* Специфика образа жизни людей, проживающих в сложных климатогеографических условиях // Вестник Кемеровского государственного университета. 2020. № 22(1). С. 139—151. DOI:10.21603/2078-8975-2020-22-1-139-151

12. *Наумова В.А.* Диалог поколений: культурно-исторический подход // Материалы Первого международного симпозиума по культурно-исторической психологии «Актуальные проблемы культурно-исторической психологии» (г. Новосибирск, 17—19 ноября 2020 г.). Новосибирск: Из-во НГПУ, 2020. С. 45—57.

13. *Низамова А.Н.* Активное долголетие и внешний вид: как теоретическая концепция регулирует самовосприятие в старшем возрасте? [Электронный ресурс] // Журнал исследований социальной политики. 2016. Том 14. № 4. С. 569—582. URL:https://jsps.hse.ru/issue/view/268 (дата обращения:10.04.2021).

12. Naumova V.A. Dialog pokoleniy: kulturno-istoricheskiy podhod [Dialogue of generations: cultural-historical approach]. Materialy Pervogo Mezhdunarodnogo simpoziuma po kul'turno-istoricheskoj psihologii «Aktual›nye *problem kul'turno-istoricheskoj psihologii»* (Novosibirsk, 17—19 noyabrya 2020)[Proceedings of the First International Symposium on Cultural-Historical Psychology *«Actual Problems of Cultural-historical Psychology»*]. Novosibirsk: Pedagogical Univ. Press, 2020, pp. 45—57. (In Russ.).

13. Nazimova A. Aktivnoye dolgoletiye I vneshniy vid: kak teoreticheskaya kontseptsiya reguliruyet samovospriyatiye v starchem vozraste) [Active longevity and appearance: how theoretical conception regulates self-perception in elderly?] *Zhurnal issledovanij social'noj politiki* [*Journal of social policy studies*], 2016. Vol. 14, no. 4, pp. 569—582. Available at: https://jsps.hse.ru/issue/view/268 (Accessed 10.04.2021). (In Russ.).

14. Pensionnaya reforma v Rossii [Elektronnyj resurs] [Pension reform in Russia]. Available at: http:/pensiya. molodaja-semja.ru/reforma/ (Accessed 10.04.2021). (In Russ.).

15. Polivanova K.N. Detstvo v menyayushemsya mire [Childhood in the changing world] *Sovremennaya zarubezhnaya psihologiya = Contemporary foreign psychology*, 2016. Vol. 5. no. 2. pp. 5—10. DOI:10.17759/jmfp.2016050201 (In Russ.).

16. Postnikova M.I. Mezhpokolennye otnosheniya v kontekste kulturno-istoricheskoy kontseptsii [Relationships between generations through cultural-historicaltheory]. *Mir nauki, kul'tury, obrazovaniya* [*Worldofscience, culture, education*], 2010, no. 4(23), pp. 125—128. (In Russ.).

17. Smirnova E.O., Smirnova S.Yu., Sheina E.G. Roditel'skie strategii v ispol'zovanii det'mi cifrovyh tekhnologij [Parental strategies in the use of digital technologies by children]. *Sovremennaya zarubezhnaya psihologiya = Modern foreign psychology*, 2019, Vol. 8, no. 4, pp. 79—87. DOI: 10.17759/ jmfp.2019080408.

18. Soldatova G.U. Tsyfrovaya socializatsiya v kulturno-istoricheskoy paradigm: izmenyayushiysa rebenok v izmenyayushemsya mire [Digital socialization through cultural-historical paradigm: a changing child in a changing world]. *Social'naya psihologiya I obshchestvo = Social psychology and society*, 2018, Vol. 9, no. 3, pp. 71—80. DOI:10.17759/sps2018090308 (In Russ.).

19. Soldatova G.U., Vishneva A.E. Osobennosti razvitiya kognitivnoj sfery u detej s raznoj onlajn aktivnost'yu: est' li zolotaya seredina? [Features of cognitive development in children with different online activity: is there a golden mean?]. *Konsul'tativnaya psihologiya i psihoterapiya = Counseling psychology and psychotherapy*, 2019, Vol. 27, no. 3, pp. 97—118. DOI: 10.17759/cpp.2019270307

20. Starchikova M.V. Adaptivnye strategii lits pozhilogo I starcheskogo vozrasta v kontexte mezhpokolennogo vzaimodeistviya [Adaptive strategies in the late and old age through the context of generations interactions]. *Izvestiya Altajskogo gosudarstvennogo universiteta [News of Altaisk State University]*, 2010, no. 2(2), pp. 127—130. (In Russ.).

21. Strizhitskaya O.Yu., Petrash M.D. Nesemeynye mezhpokolennye otnosheniya: problem i perspektivy [Family unrelated relations of generations: problems and perspectives] *Vestnik Sankt-Peterburgskogo universiteta. Psihologiya* [*Journal of Saint Petersburg University,Psychology*], 2019a. no. 9(3), pp. 243—253. DOI:10.21638/spbu16.2019.302 (In Russ.).

22. Strizhitskaya O.Yu., Petrash M.D. Metodologicheskiye problem I podhody k empiricheskomu issledovaniy u mezhpokolennyh otnosheniy [Methodological problems and approaches to an experimental study of relations between

14. Пенсионная реформа в России [Электронный ресурс]. URL://http:/pensiya.molodaja-semja.ru/reforma/ (дата обращения:10.04.2021).

15. *Поливанова К.Н.* Детство в меняющемся мире // Современная зарубежная психология. 2016. Том 5. № 2. С. 5—10. DOI:10.17759/jmfp.2016050201

16. *Постникова М.И.* Межпоколенные отношения в контексте культурно-исторической концепции // Мир науки, культуры, образования. 2010. № 4(23). С. 125—128.

17. *Смирнова Е.О., Смирнова С.Ю., Шеина Е.Г.* Родительские стратегии в использовании детьми цифровых технологий // Современная зарубежная психология. 2019. Том 8. № 4. С. 79—87. DOI: 10.17759/ jmfp.2019080408

18. *Солдатова Г.У.* Цифровая социализация в культурно-исторической парадигме: изменяющийся ребенок в изменяющемся мире // Социальная психология и общество. 2018. Том 9. № 3. С. 71—80. DOI: 10.17759/ sps.2018090308

19. *Солдатова Г.У., Вишнева А.Е.* Особенности развития когнитивной сферы у детей с разной онлайн активностью: есть ли золотая середина? // Консультативная психология и психотерапия. 2019. Том 27. № 3. С. 97—118. DOI: 10.17759/cpp.2019270307

20. *Старчикова М.В.* Адаптивные стратегии лиц пожилого и старческого возраста в контексте межпоколенного взаимодействия // Известия Алтайского государственного университета. 2010. № 2(2). С. 127—130.

21. *Стрижицкая О.Ю., Петраш М.Д.* Несемейные межпоколенные отношения: проблемы и перспективы // Вестник Санкт-Петербургского университета. Психология. 2019а. № 9(3). С. 243—253. DOI: 10.21638/ spbu16.2019.302

22. *Стрижицкая О.Ю., Петраш М.Д.* Методологические проблемы и подходы к эмпирическому исследованию межпоколенных отношений [Электронный ресурс] // Мир науки. Педагогика и психология. 2019б. № 6. URL:https://mir-nauki.com/PDF/108PSMN619.pdf (дата обращения:10.04.2021).

23. *Сыманюк Э.Э., Буковей Т.Д., Зеер Э.Ф.* Трансвитальность как фактор преодоления кризиса утраты профессии // Материалы III международного форума «CognitiveNeuroscience — 2020» (г. Екатеринбург, 11—12 декабря 2020 г.). Екатеринбург: Изд-во Урал. ун-та, 2021. С. 88—91. URL: https://elar.urfu.ru/handle/10995/95463 (дата обращения:10.04.2021).

24. *Тайкова Л.В., Тайков С.М.* Проблема межпоколенных отношений в современном обществе и семье // Вестник Новгородского государственного университета. 2015. № 5(88). С. 92—95.

25. *Чернышкова Е.В.* Визуальный образ старости в контексте современной жизни // Научные проблемы гуманитарных исследований. 2011. № 9. С. 288—293.

26. *Шарин В.И., Кулькова И.А.* Влияние помощи старшего поколения на рождаемость в России // Народонаселение. 2019. № 2. С. 40—50. DOI:10.24411/1561-7785-2019-00014

27. *Эльконин Д.Б.* Психическое развитие в детских возрастах. М.: Институт практической психологии; Воронеж: НПО МОДЭК, 1995. 416 с.

28. Этимологический онлайн-словарь русского языка М. Фасмера [Электронный ресурс]. URL: https://lexicography.online/etymology/vasmer/ (дата обращения:10.04.2021).

29. *Яфальян А.Ф.* Эстетическое самовыражение детей в условиях межпоколенческого диалога // Педагогическое образование в России. 2017. № 12. С. 80—86.

generations *Mir nauki. Pedagogika I psihologiya* [*World of science. Pedagogics and Psychology*], 2019б, no. 6. Available at: https:// mir-nauki.com/PDF/108PSMN619.pdf (Accessed 10.04.2021). (In Russ.).

23. Symanuk E.E., Bukovey T.D., Zeer E.F. Transvitalnost' kak factor preodoleniya krizisa utratyprofessii [Trans vitality as a factor for surmounting the crisis of profession loss]. Materialy Tret`ego Mezhdunarodnogo foruma «Cognitive Neuroscience — 2020» (g. Ekaterinurg, 11—12 dekabrya 2020 g.). [Proceedings of the III International Forum «Cognitive Neuroscience — 2020»].Yekaterinburg: Publ. Ural Univ. Press, 2021, pp. 88—91. Available at: https://elar.urfu.ru/handle/10995/95455 (Accessed:10.04.2021).(In Russ.).

24. Taikova L.V., Taikov S.M. Problema mezhpokolenny otnosheniy v sovremennom obshestve I semye [Problem of relations between generations in the contemporary society and family]. *Vestnik Novgorodskogo gosudarstvennogo universiteta* [*Journal of Novgorod State University*], 2015, no. 88. pp. 92—95. (In Russ.).

25. Chenyshkova E.V. Vizualnyy obraz starosti v kontekste sovremennoy zhizni [Visual image of elderlyin modern life]. *Nauchnye problem gumanitarnyh issledovanij* [*Scientific problems of humanitarian studies*], 2011, no. 9. pp. 288—293. (In Russ.).

26. Sharin V.I., Kul'kova I.A. Vliyanie pomoshi starshego pokoleniya na rozdayemost' v Rossii [The effect of older generation help on nativity in Russia]. *Narodonaselenie* [*Population*], 2019, no. 2. pp. 40—50. DOI:10.24411/1561-7785-2019-00014. (In Russ.)

27. Elkonin D.B. Psykhicheskoye razvitiye v detskih vozrastah [Child mental development in different age]. Moscow: Institute of practical psychology press; Voronezh: Modek press. 1995, 415 p.(In Russ.).

28. Etimologicheskiy onlain slovar' russkogo yazika M. Fasmera [Elektronnyjresurs] [M. Fasmer's Etymological on line dictionary of Russian]. Available at: https://lexicography.online/etymology/vasmer/ (Accessed10.04.2021) (In Russ.).

29. Yafalyan A.F. Esteticheskoye samovyrazhenie detey v usloviyakh mezhpokolencheskogo dialoga [Esthetic self-expression of children in conditions of dialogue between generations].*Pedagogicheskoe obrazovanie v Rossii* [*Pedagogical education in Russia*], 2017, no. 12. pp. 80—86. (In Russ.).

30. Flamion A., Missotten P.,Jennotte L., Hody N., Adam S. Old Age-Related Stereotypes of Preschool Children. *Front. Psychol*, 2020. Vol. 11, pp. 807. DOI:10.3389/fpsyg.2020.00807

31. Flamion A., Missotten P., Marquet M., Adam, S. The influence of contacts with grandparents on the views of children and adolescents on the elderly. *Child of Dev*, 2019. Vol. 90(4), pp. 1155—1169. DOI:10.1111/cdev.12992

32. Hsieh H.F., Shannon S.E. Three Approaches to Qualitative Content Analysis.*Qualitative Health Research*.2005. Vol. 15(9). pp. 1277—1288. DOI:10.1177/1049732305276687

33. Levy B.R, Myers L.M. Preventive health behaviors influenced by self-assessment of aging. *Preventive medicine*, 2004. Vol. 39(3), p. 625. DOI:10.1016/j.ypmed.2004.02.029.

34. Levy B.R. The embodiment of the stereotype: A psychosocial approach to aging. *Current trends in psychological Science*, 2009. Vol. 18(6). pp. 332—336. DOI:10.1111/j.1467—8721.2009.01662.x.

35. Mendonsa J., Marquez S., Abrams D. Children's attitudes toward the elderly: Current and future directions. In Ayalon L., Tesch-Römer C. (eds.), Contemporary Perspectives on Ageism. *International Perspectives on Aging*, 2018. Vol. 19. pp. 517—548. DOI:10.1007/978-3-319-73820-8_30

36. Naumova V.A., Glozman J.M. Representations of old age in childhood. *Lurian Journal*, 2021. Vol. 2(1), pp. 63—79. DOI:10.15826/Lurian.2021.2.1.4

30. *Flamion A., Missotten P., Jennotte L., Hody N., Adam* S. Old Age-Related Stereotypes of Preschool Children. Front. Psychol. 2020. Vol. 11. P. 807. DOI:10.3389/fpsyg.2020.00807

31. *Flamion A., Missotten P., Marquet M., Adam S*. The influence of contacts with grandparents on the views of children and adolescents on the elderly. Child of Dev. 2019. Vol. 90(4). P. 1155—1169. DOI:10.1111/cdev.12992

32. *Hsieh H.F., Shannon S.E.* Three Approaches to Qualitative Content Analysis // Qualitative Health Research. 2005. Vol. 15(9). P. 1277—1288. DOI:10.1177/1049732305276687

33. *Levy B.R, Myers L.M*. Preventive health behaviors influenced by self-assessment of aging. Preventive medicine. 2004. Vol. 39(3). P. 625. DOI: 10.1016/j.ypmed.2004.02.029.

34. *Levy B.R*. The embodiment of the stereotype: A psychosocial approach to aging. Current trends in psychological Science. 2009. Vol. 18(6). P. 332—336. DOI:10.1111/j.1467—8721.2009.01662.x.

35. *Mendonsa J., Marquez S., Abrams D.* Children's attitudes toward the elderly: Current and future directions. In: Ayalon L., Tesch-Römer C. (eds) Contemporary Perspectives on Ageism. International Perspectives on Aging. 2018. Vol. 19. P. 517—548. DOI:10.1007/978-3-319-73820-8_30

36. *Naumova V.A., Glozman J.M.* Representations of old age in childhood // Lurian Journal. 2021. Vol. 2 (1). P. 63—79. DOI:10.15826/Lurian.2021.2.1.4

37. *Rowe J.W., Kahn R.L.* Successful aging // The Gerontologist. 1997. Vol. 37(4). P. 433—440. DOI:10.1093/geront/37.4.433

38. *Strizhitskaya O*. Aging in Russia // The Gerontologist. 2016. Vol. 56(5). P. 795—799 DOI:10.1093/geront/gnw007

39. *Tornstam L*. Gerotranscendence. A Developmental Theory of Positive Aging. New York: Springer, 2005. 226 p. URL: http://repositorii.urindo.ac.id/repository2/files/original/94bf151af9fff10ee512fe9032b10e5536cb401a.pdf (дата обращения: 10.04.2021).

40. *Vauclair C.M., Rodrigues R.B., Marques S., Esteves C.S., Cunha F., Gerardo F.* Doddering but deareven in the eyes of young children? Age stereotyping and prejudice in childhood and adolescence // Int. J. Psychol. 2018. Vol. 53. P. 63—70. DOI:10.1002/ijop.12430

37. Rowe J.W., Kahn R.L. Successful aging. *The Gerontologist*, 1997. Vol. 37(4), pp. 433—440. DOI:10.1093/geront/37.4.433.

38. Strizhitskaya O. Aging in Russia. *The Gerontologist*, 2016. Vol. 56(5), pp. 795— DOI:10.1093/geront/gnw007.

39. Tornstam L. Gerotranscendence. A Developmental Theory of Positive Aging. New York: Springer, 2005. 226 p. URL: http:/repositorii.urindo.ac.id/repository2/files/original/94bf151af9fff10ee512fe9032b10e5536cb401a.pdf (Accessed 10.04.2021).

40. Vauclair C.M., Rodrigues R.B., Marques S., Esteves C.S., Cunha F., Gerardo F. Doddering but deareven in the eyes of young children? Age stereotyping and prejudice in childhood and adolescence. *Int. J. Psychol*, 2018. Vol. 53, pp. 63—70. DOI:10.1002/ijop.12430.

Information about the authors
Zhanna M. Glozman, Doctor of Psychological Sciences, Professor, Leading Researcher at the Laboratory of Neuropsychology, Department of Psychology, Lomonosov Moscow State University, Moscow, Russia, ORCID: https://orcid.org/ 0000-0002-7736-0819 , e-mail: glozman@.ru

Valentina A. Naumova, PhD in Psychology, Associate Professor of the Department of Theoretical and Practical Psychology, Kamchatka State University named after V. Bering, Petropavlovsk-Kamchatsky, Russia, ORCID: https://orcid.org/0000-0001-9643-1048, e-mail: naumovavalentina2011@mail.ru

Информация об авторах
Глозман Жанна Марковна, доктор психологических наук, профессор, ведущий научный сотрудник лаборатории нейропсихологии факультета психологии, Московский государственный университет имени М.В. Ломоносова (ФГБОУ ВО «МГУ имени В.М. Ломоносова»), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-7736-0819, e-mail: glozman@.ru

Наумова Валентина Александровна, кандидат психологических наук, доцент кафедры теоретической и практической психологии, Камчатский государственный университет имени В. Беринга (ФГБОУ ВО «КамГУимени В. Беринга»), г. Петропавловск-Камчатский, Российская Федерация, ORCID: https://orcid.org/0000-0001-9643-1048, e-mail: naumovavalentina2011@mail.ru

Personality Inner Position as the Basis for Civic Identity Development

Valeriya S. Mukhina
Moscow Pedagogical State University (MPGU), Moscow, Russia
ORCID: https://orcid.org/0000-0002-9417-6925, e-mail: rl-online@mail.ru

Sergey V. Melkov
Moscow Pedagogical State University (MPGU), Moscow, Russia
ORCID: https://orcid.org/0000-0002-0670-6325, e-mail: sergey.melkov@gmail.com

In this paper methodologically approaches to the problem of the formation of civic identity are presented. The authors refer to the concept of "Phenomenology of Personal Development and Being" (V.S. Mukhina). A person's inner position as an essential basis for the formation of the civic identity should include the following: 1. The value attitude towards the reality of objective and spiritual world as a result of historically established activities of mankind. 2. The subject-subject attitude to natural reality, requiring citizens to value Russia's unique natural diversity. 3. The reality of image-sign consciousness in general with particular importance of the reality of civic consciousness and civic identity. 4. The reality of social and normative space, first of all, value attitude to civil rights and duties of everyone, to laws of Russia, to results of science and cultural traditions of numerous nations of the country. 5. The reality of individual's inner space certainly presupposes an active civic position, coupled with the value attitude towards oneself as a citizen, ready to take responsibility for one's own development and being as an integral personality, committed to one's country as a stronghold of the State.

Keywords: person's inner position, civil identity, rights and duties, inner position of a citizen, realities of being.

Внутренняя позиция личности как основа развития гражданской идентичности

В.С. Мухина
Московский педагогический государственный университет (ФГБОУ ВО МПГУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-9417-6925, e-mail: rl-online@mail.ru

С.В. Мелков
Московский педагогический государственный университет (ФГБОУ ВО МПГУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0002-0670-6325, e-mail: sergey.melkov@gmail.com

Представлены методологические подходы к проблеме формирования гражданской идентичности в контексте концепции «Феноменология развития и бытия личности» В.С. Мухиной. Развитая личность должна быть субъектом целостной гражданской идентичности. Внутренняя позиция личности как сущностная основа формирования гражданской идентичности должна включать в себя:

1) ценностное отношение к реальности предметного и духовного мира как результату исторически сложившейся деятельности человечества; 2) субъект-субъектное отношение к природной реальности, требующей от граждан ценностного отношения к уникальному многообразию природы России; 3) реальность образно-знакового сознания в целом и особое значение реальности гражданского самосознания и гражданской идентичности; 4) реальность социально-нормативного пространства как ценностное отношение к гражданским правам и обязанностям каждого, к законам России, к результатам науки и к культурным традициям многочисленных народов страны; 5) реальность внутреннего пространства личности предполагает активную гражданскую позицию, сопряженную с ценностным отношением к себе как к гражданину, готовому брать на себя ответственность за свое развитие и бытие как целостной личности.

Ключевые слова: внутренняя позиция личности, гражданская идентичность, права и обязанности, внутренняя позиция гражданина, реалии бытия.

Today there are socio-cultural and worldview changes especially acutely reflected in the self-consciousness of the younger generation [26], which is value ambivalent [39] and sensitive to both spontaneous information influence and targeted propaganda of global policy actors. In today's information society, "information sets not only the socialization trajectory but patterns of behavior, standards of identification for a large group of people as well" [18, p. 78], creates risks to person's mental health and well-being [36, p. 83]. The situation is exacerbated by the fact that Russia is in the process of searching for and shaping the state ideology that can carry out the task of consolidating its citizens, which will not succeed without a developed civil identity of Russians based on a conscious inner position of a person who is capable of consciously taking responsibility for the well-being and development of the country.

Vladimir Dal' once defined the word "citizen" in his Dictionary of the Living Russian Language [11, p. 400]. More than 140 years have passed since the publication date. However, we can see how the meanings and implications of this word have changed for such a historically short period. Today, in the Dictionary of the Russian language, one can see what changes have taken place with the meanings and implications of this word [9, p. 342].

The philosophical encyclopedia refers us to G.W.F. Hegel, who wrote that civil is a society, in which private and common interests are combined. The philosopher believed: "It is only by being a citizen of a good state that an individual achieves his right" [8, p. 207]. The philosopher thought that: "In civil society, everyone is a goal for himself; everything else is nothing to him. However, without relating to others, one cannot achieve his/her goals in their entirety: these others are therefore the

means for the goal of the particular. But the particular goal through its relationship with others gives itself the form of the universal and satisfies itself, satisfying at the same time the striving of others for the good" [8, p. 228].

H.W.F. Hegel regarded civil society as a condition and opportunity for the realization of a man's rights as a free individual, whose individual goals are interconnected with public duties, without which they lose any reasonable sense. The freedom to be an individual also implies personal responsibility for the social conditions that determine his or her development and being. Philosopher was certainly right when he said that there are no rights without responsibilities. A citizen's rights are only realized when he or she assumes the responsibility to care for and develop his or her state for the benefit of all and for the benefit of himself or herself.

It is then useful to turn to ideas about Russia's identity in its historical path. F.M. Dostoevsky argued: "...our people carry within the organic rudiments of an idea, special from all the world. This idea has such a great power in us that, of course, will affect all of our future history, and since it is very special and like no one else, our history cannot be like that of other European nations, much less its slavish copy. That's what our smart people who believe that everything in our country will be transformed into Europe without any specialness and who hate specialness, from which, of course, things may even end in disaster do not understand" [12, p. 493].

With respect to the national idea, the thoughts of philosopher V.S. Solov'ev [30] had a significant influence. E.N. Trubetskoy most closely adhered to his ideas, emphasizing the great thinker's role in overcoming a variant of nationalist Russian messianism. E.N. Trubetskoy wrote: "Unfortunately, the awareness of the sins and

contradictions of old Slavophilism did not save Solov'ev himself from the same fatal infatuation. The old traditional dream of the third Rome and the God-bearing people was resurrected in another form" [34, p. 245]. At the same time, the philosopher expressed confidence that: "Russian is not the same as Christian, but represents an extremely valuable national and individual feature among Christianity, which undoubtedly has a universal, ecumenical significance. By renouncing false anti-Christian messianism, we will inevitably be led to a more Christian solution to the national question. We shall see in Russia not the only chosen nation, but one of the nations, which together with others is called to do the great work of God, making up for its valuable features with equally valuable qualities of all other brother nations" [34, p. 256].

At the same time, historian N.S. Trubetskoy, a nephew of E.N. Trubetskoy, addressed the problem of the Russian national idea and wrote with compassion about the identity of Russian emigration: "Russian emigration is a political phenomenon, a direct consequence of political events. No matter how hard Russian emigrants try to escape politics, they are unable to do so without ceasing to be emigrants... returning home is everyone's cherished dream" [35, p. 228].

More than 100 years have passed since the 1917 revolution. Since the Civil War, the country has experienced many transformations, stresses and losses in addition to military and political upheavals.

Isn't it time to think about the potential of the emigrants who voluntarily left and were forcibly expelled from the Fatherland?

Russia has lost that special layer of spiritual culture which the nobility had been known for.

We are close to the thoughts of N.A. Berdyaev about the Russian intelligentsia: "The Russian intelligentsia is a very special, only in Russia existing, spiritual and social formation. Intelligentsia is not a social class ... Intelligentsia was an idealistic class, a class of people who were entirely enthusiastic about ideas and were prepared to go to prison, to hard labor and to execution for the sake of their ideas ... Impossibility of political activity led to the confession of the most extreme social teachings under autocratic monarchy and serfdom ... The Russian intelligentsia has discovered an exceptional capacity for ideological fascination" [6, pp. 34—35]. The Russians were fascinated by many of the ideas of European thinkers "as no one has ever been passionate in their homeland" [6, p. 35].

Intelligentsia is a social group consisting of people who not only have education and special professional knowledge in the field of science, technology and culture, a group of persons engaged in intellectual work; it is also necessarily a social group with a highly developed Russian language, with a decent education, reflected in the actions, everyday behavior of people and in extreme,

unexpectedly occurring situations, when a person is subconsciously taken over by evolutionary instincts.

We are convinced that it is time for the whole world to think and to want to return emigrants to their motherland.

No less important task for our state is to solve the problem of "brain drain" of potential intellectual elite to foreign countries [2; 21; 29] by creating conditions for self-realization, legal protection and material well-being of people engaged in scientific activities for the benefit of Russia.

The education system has an undoubted potential for the development of the civic identity, but the existing practices of its formation are mainly built within the established processes of socialization, sometimes ignoring intrapersonal aspects and the value and meaning sphere, which is the basis for the development of any identity of a person. Today it becomes obvious that a "person's value and meaning sphere determines his/her social behavior and the strategic task of the education system is to create an educational environment conducive to the development of students' personal potential" [1, p. 5]. Therefore, it seems particularly important to develop methodological approaches to the formation of inner position of a person, including the organization of educational work in school [3;4, p. 9] which will be an organic basis for the development of a holistic constructive civic identity.

Today in Russia the need to form civic identity is declared as one of the priorities of public policy, science and education [27; 28], but in Russian psychology the study of personal civic identity has been on the periphery of scholarly interest.

There have been 16 dissertations on the issue in Russia and only one PhD in psychology [14] where the civic identity as a psychological phenomenon is not conceptualized, but only considered as one of the sampling criteria.

Since a developed personality is a condition for a holistic constructive civic identity [24], it is important to focus on a holistic psychological concept of personality in methodological approaches to its formation. Such an approach is not yet represented in Russia. For this we turn to the concept "Phenomenology of Personality Development and Being" [22].

We invariably talk about the importance of "inner position" for personality development [19; 22, pp. 857—858], which we understand as "a special value attitude to oneself, to the people around, to one's own life path and to life in general" [22, p. 913]. A person's inner position is inextricably linked to self-awareness [20; 23]. Self-awareness involves reflection on one's place in nature, in the world of objects, in the world of image and sign systems and in the social and normative space [22, p. 20, 174, 841, 872, 916].

Social conditions for civic identity formation are the realities of being in the object, natural, image-sign and socio-normative spaces of the country [22, p. 739—959].

Contemporary research addresses particular aspects of the realities of being as they relate to the issue of the civic identity: the image of the homeland as a reflection of ideas about the state in the minds of citizens is studied [32], regional identity in the context of local territorial conditions of citizenship development [17] and the mechanism of social integration of civil society [10; 25] are considered, the relationship between environmental settings and civic identity [31] is described, the educational potential of music and language consciousness [33] and possibilities of citizenship education and the formation of its value orientations by the music of the peoples of the world [37] is justified, the age specificity of the civic position, civic activity [15] and legal consciousness of a citizen [7; 40] are discussed, the relationship between the civic identity and religious attitudes [38] and behavioral strategies in the context of interethnic relations [5] are described, the place of language realities [13], national and ethnic identity in the structure of civil consciousness [41] is considered. The concept "Phenomenology of Personality Development and Being" [22] offers a holistic systemic vision of external conditions as realities of being and personality development that determine the formation of the civic identity.

A person's inner position is born at the intersection of humanity's created realities of being. Therefore, a person's inner position as the basis for the holistic constructive civic identity formation includes the following:

1. Valuable attitude towards the reality of objective and spiritual world as a result of historically established activities of mankind with a focus on the achievements of material and spiritual production in our Homeland.

2. Subject-subject attitude to the reality of natural world requiring citizens to value Russia's unique natural diversity.

3. The reality of image-sign consciousness — above all the reality of civic awareness and civic identity. For Russian citizens — a value attitude towards Russian and undoubtedly for all the peoples of the country to their ancestral national languages, domestic achievements in science and culture in the past, present and near future.

4. Reality of social and normative space — above all, the value attitude to civil rights and responsibilities, to the laws of Russia, to the results of science and to the cultural traditions of the country's numerous peoples. Respect for the history of the State development, the Constitution of the Russian Federation, including the Art Constitution, the Universal Declaration of Human Rights, the Declaration of the Rights of the Child and other socially significant normative acts formulated in Russia and civilized countries.

5. The reality of a person's inner space presupposes an active civic position, coupled with a value attitude towards oneself as a citizen, ready to take the responsibility for one's own development and being as an integral personality committed to his/her country as a bulwark of the State.

The civic identity is a phenomenon of a person's inner position which develops through identification with the ideas that affirm the value of a person as a citizen of his/her Homeland.

References

1. Baeva I.A., Gayazova L.A., Kondakova I.V. et al. Psikhologicheskaya bezopasnost' lichnosti i tsennosti podrostkov i molodezhi [Psychological Security and Values in Adolescents and Young People]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2020, Vol. 25, no. 6, pp. 5—18. DOI:10.17759/pse.2020250601 (In Russ.).

2. Bakina A.V., Orlova O.A., Yaremtchuk S.V. Komponenty tsennostno-smyslovoi sfery lichnosti kak prediktory migratsionnykh namerenii molodezhi (na primere goroda Komsomol'ska-na-Amure) [Components of value-semantic sphere of personality as predictors of migration intentions among the youth (on the example of Komsomolsk-on-Amur)]. *Sotsial'naia psikhologiia i obshchestvo = Social Psychology and Society*, 2019, Vol. 10, no. 2, pp. 95—113. DOI:10.17759/sps.2019100208 (In Russ.).

3. Basyuk V.S. Lichnostnye rezul'taty osvoeniya osnovnykh obrazovatel'nykh programm obuchayushchimisya v usloviyakh realizatsii FGOS obshchego obrazovaniya [Personal results of educational programs' mastering according to FSES of general education]. *Razvitie lichnosti = Development of Personality*, 2017, no. 1, pp. 29—43. (In Russ.).

4. Basyuk V.S., Vinogradova N.F., Lazebnikova A.Yu. Federal'nye gosudarstvennye obrazovatel'nye standarty nachal'nogo i osnovnogo obrazovaniya: kharakter izmenenii i problemy vnedreniya [Federal state educational standards

Литература

1. *Баева И.А., Гаязова Л.А., Кондакова И.В. и др.* Психологическая безопасность личности и ценности подростков и молодежи // Психологическая наука и образование. 2020. Том 25. № 6. С. 5—18. DOI:10.17759/pse.2020250601

2. *Бакина А.В., Орлова О.А., Яремчук С.В.* Компоненты ценностно-смысловой сферы личности как предикторы миграционных намерений молодежи (на примере города Комсомольска-на-Амуре) // Социальная психология и общество. 2019. Том 10. № 2. С. 95—113. DOI:10.17759/sps.2019100208

3. *Басюк В.С.* Личностные результаты освоения основных образовательных программ обучающимися в условиях реализации ФГОС общего образования // Развитие личности. 2017. № 3. С. 29—43.

4. *Басюк В.С., Виноградова Н.Ф., Лазебникова А.Ю.* Федеральные государственные образовательные стандарты начального и основного образования: характер изменений и проблемы внедрения // Отечественная и зарубежная педагогика. 2021. Том 1. № 4(77). С. 7—29. DOI:10.24412/2224-0772-2021-77-7-29

5. *Батхина А.А., Лебедева Н.М.* Предикторы выбора русскими стратегии поведения в межкультурном конфликте // Социальная психология и общество. 2019. Том 10. № 1. С. 70—91. DOI:10.17759/sps.2019100105

of primary and basic education: the nature of changes and problems of implementation]. *Otechestvennaya i zarubezhnaya pedagogika* [*Domestic and Foreign Pedagogy*], 2021, Vol. 1, no. 4 (77), pp. 7—29. DOI:10.24412/2224-0772-2021-77-7-29 (In Russ.).

5. Batkhina A.A., Lebedeva N.M. Prediktory vybora russkimi strategii povedeniya v mezhkul'turnom konflikte [Predictors of behavioral strategy choice among Russians in intercultural conflict]. *Sotsial'naia psikhologiia i obshchestvo = Social Psychology and Society*, 2019, Vol. 10. no. 1, pp. 70—91. DOI:10.17759/sps.2019100105 (In Russ.).

6. Berdyaev N.A. Russkaya ideya [Russian idea]. Moscow: Publ. AST, 2002. 624 p.

7. Boykina E.E., Chernov V.A. Pravosoznanie podrostkov pokoleniya tsentinialov: prognosticheskaya otsenka [Legal Conscience of Teens from the Centennials Generation: a Prognostic Assessment]. *Psikhologiya i pravo = Psychology and Law*, 2021, Vol. 11, no. 1, 135—149. DOI:10.17759/psylaw.2021110111 (In Russ.).

8. Hegel G.V.F. Filosofiya prava: per. s nem. [Philosophy of law]. Moscow: Mysl', 1990. 524 p.

9. Grazhdanin [Citizen]. In Evgenieva A.P. (ed.) *Slovar' russkogo yazyka: v 4 t. T. 1.* [*Dictionary of the Russian language: in 4 vol. Vol. 1*]. 4-e izd.: Moscow: Poligrafresursy, 1999, pp. 342.

10. Gritsenko V.V., Ostapenko L.V., Subbotina I.A. Znachimost' grazhdanskoi, etnicheskoi i regional'noi identichnosti dlya zhitelei malykh rossiiskikh gorodov i ee determinanty [The Importance of Civil, Ethnic and Regional Identity for Residents from Small Russian Towns and its Determinants]. *Sotsial'naia psikhologiia i obshchestvo = Social Psychology and Society*, 2020, Vol. 11, no. 4, pp. 165—181. DOI:10.17759/sps.2020110412 (In Russ.).

11. Dal' Vl. Grazhdanin, grazhdanka, grazhdanstvo, grazhdanstvennost' [Citizen, citizenship, citizenship]. In Dal' Vl. (ed.) *Tolkovyi slovar' zhivago velikorusskago yazyka: v 4 t. T. 1.* [*Explanatory Dictionary of the Living Great Russian Language: in 4 vol. Vol. 1.*]. 2-e izd.: St. Petersburg; Moscow: Publ. of a bookseller — Wolf's N.O. printing house, 1880, pp. 400.

12. Dostoevskii F.M. Pust' pervye skazhut, a my poka postoim v storonke, edinstvenno chtob umu-razumu pouchit'sya [Let the first ones say, but for now we will stand on the sidelines, only to learn the mind and mind]. *Sobranie sochinenii: v 15 t. T. 14.* [*Collected Works: in 15 vol. Vol. 14*]. St. Petersburg: Nauka, 1995, pp. 491—496.

13. Dugarova T.Ts. Fenomeny yazykovykh realii etnicheskogo samosoznaniya v kontekste kontseptsii fenomenologii razvitiya i bytiya lichnosti (na materiale izucheniya mental'nosti buryat) [Phenomena of linguistic realities of ethnic selfconsciousness in the context of phenomenology of person's development and being conception (by the material of Buryats' mentality study)]. *Razvitie lichnosti = Development of Personality*, 2018, no. 2, pp. 183—208. (In Russ.).

14. Efremova M.V. Vzaimosvyaz' grazhdanskoi i religioznoi identichnosti s ekonomicheskimi ustanovkami i predstavleniyami. Diss. kand. psikhol. nauk. [The relationship of civic and religious identity with economic attitudes and beliefs. Ph. D. (Psychology) diss.]. Moscow, 2010. 176 p.

15. Kochetova Yu.A., Emelianova E.A. Psikhologicheskie kharakteristiki proyavleniya grazhdanskoi pozitsii v rannei i pozdnei yunosti [Elektronnyi resurs]. [Psychological Characteristics of the Manifestation of Civil Position in Early and Late Youth]. *Psikhologo-pedagogicheskie issledovaniya = Psychological-Educational Studies*, 2019, Vol. 11, no. 4, pp. 147—156 DOI:10.17759/psyedu.2019110412 (In Russ.).

16. Kuznetsova S.A. Territorial'noe samoopredelenie magadanskikh studentov na raznykh etapakh obucheniya v vuze

6. *Бердяев Н.А.* Русская идея. М.: АСТ, 2002. 624 с.

7. *Бойкина Е.Э., Чернов В.А.* Правосознание подростков поколения центиниалов: прогностическая оценка [Электронный ресурс] // Психология и право. 2021. Том 11. № 1. С. 135—149. DOI:10.17759/psylaw.2021110111

8. *Гегель Г.В.Ф.* Философия права: пер. с нем. М.: Мысль, 1990. 524 с.

9. *Гражданин* // Словарь русского языка: в 4 т. Т. 1 / Гл. редактор А.П. Евгеньева. 4-е изд.: М.: Полиграфресурсы, 1999. С. 342.

10. *Гриценко В.В., Остапенко Л.В., Субботина И.А.* Значимость гражданской, этнической и региональной идентичности для жителей малых российских городов и ее детерминанты // Социальная психология и общество. 2020. Том 11. № 4. С. 165—181. DOI:10.17759/sps.2020110412

11. *Даль Вл.* Гражданин, гражданка, гражданство, гражданственность // Даль Вл. Толковый словарь живаго великорусскаго языка: в 4 т. Т. 1. 2-е изд.: СПб.; М.: Издание книгопродавца — типография Н.О. Вольфа, 1880. С. 400.

12. *Достоевский Ф.М.* Пусть первые скажут, а мы пока постоим в сторонке, единственно чтоб уму-разуму поучиться // Достоевский Ф.М. Собрание сочинений: в 15 т. Т. 14. СПб.: Наука, 1995. С. 491—496.

13. *Дугарова Т.Ц.* Феномены языковых реалий этнического самосознания в контексте концепции феноменологии развития и бытия личности (на материале изучения ментальности бурят) // Развитие личности. 2018. № 2. С. 183—208.

14. *Ефремова М.В.* Взаимосвязь гражданской и религиозной идентичности с экономическими установками и представлениями: дисс. ... канд. психол. наук. М., 2010. 176 с.

15. *Кочетова Ю.А., Емельянова Е.А.* Психологические характеристики проявления гражданской позиции в ранней и поздней юности [Электронный ресурс] // Психолого-педагогические исследования. 2019. Том 11. № 4. С. 147—156. DOI:10.17759/psyedu.2019110412

16. *Кузнецова С.А.* Территориальное самоопределение магаданских студентов на разных этапах обучения в вузе // Социальная психология и общество. 2020. Том 11. № 4. С. 182—197. DOI:10.17759/sps.2020110413

17. *Максимова Л.А., Валиев Р.А., Руженцева Н.Б. и др.* Региональная идентичность в юношеском возрасте как маркер личностной связи с территорией проживания // Психологическая наука и образование. 2019. Том 24. № 2. С. 82—92. DOI:10.17759/pse.2019240208

18. *Марцинковская Т.Д.* Информационное пространство транзитивного общества: проблемы и перспективы развития // Консультативная психология и психотерапия. 2019. Том 27. № 3. С. 77—96. DOI:10.17759/cpp.2019270306

19. *Мелков С.В.* Единство и амбивалентность двух методологических позиций в понимании феномена человека // Развитие личности. 2013. № 3. С. 144—146.

20. *Мелков С.В.* Идеи В.С. Мухиной о структурных звеньях самосознания как методологическая основа изучения гендерной идентичности личности // Развитие личности. 2017. № 4. С. 119—141.

21. *Муращенкова Н.В.* Взаимосвязь ценностей и эмиграционных намерений студенческой молодежи г. Смоленска // Социальная психология и общество. 2021. Том 12. № 1. С. 77—93. DOI:10.17759/sps.2021120106

22. *Мухина В.С.* Личность: Мифы и Реальность (Альтернативный взгляд. Системный подход. Инновационные аспекты). 7-е изд.: М.: Национальный книжный центр, 2020. 1127 с.

23. *Мухина В.С.* Шлейфы и сполохи самосознания народов, живущих на планете Земля // Развитие личности. 2017. № 1. С. 144—167.

[Territorial Self-Determination of Magadan Students at Different Stages of Education in the University]. *Sotsial'naya psikhologiya i obshchestvo = Social Psychology and Society*, 2020, Vol. 11, no. 4, pp. 182—197. DOI:10.17759/sps.2020110413 (In Russ.).

17. Maksimova L.A., Valiyev R.A., Ruzhentseva N.B. et al. Regional'naya identichnost' v yunosheskom vozraste kak marker lichnostnoi svyazi s territoriei prozhivaniya [Conceptosphere of Regional Identity in Young People as Marker of Personal Relation with Territory of Residence]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2019, Vol. 24, no. 2, pp. 82—92. DOI:10.17759/pse.2019240208 (In Russ.).

18. Martsinkovskaya T.D. Informatsionnoe prostranstvo tranzitivnogo obshchestva: problemy i perspektivy razvitiya [Information Space of a Transitive Society: Challenges and Prospects]. *Konsul'tativnaya psikhologiya i psikhoterapiya = Counseling Psychology and Psychotherapy*, 2019, Vol. 27, no. 3, pp. 77—96. DOI:10.17759/cpp.2019270306 (In Russ.).

19. Melkov S.V. Edinstvo i ambivalentnost' dvukh metodologicheskikh pozitsii v ponimanii fenomena cheloveka [Unity and ambivalence of two methodological positions in understanding of human being phenomenon]. *Razvitie lichnosti* [*Development of Personality*], 2013, no. 3, pp. 144—146. (In Russ.).

20. Melkov S.V. Idei V.S. Mukhinoi o strukturnykh zven'yakh samosoznaniya kak metodologicheskaya osnova izucheniya gendernoi identichnosti lichnosti [Ideas of V.S. Mukhina about structural elements of self-consciousness as methodological basis for person's gender identity study]. *Razvitie lichnosti* [*Development of Personality*], 2017, no. 4, pp. 119—141. (In Russ.).

21. Murashcenkova N.V. Vzaimosvyaz' tsennostei i emigratsionnykh namerenii studencheskoi molodezhi g. Smolenska [Interrelation of Values and Emigration Intentions of Student's Youth of Smolensk]. *Sotsial'naia psikhologiia i obshchestvo = Social Psychology and Society*, 2021, Vol. 12, no. 1, pp. 77—93. DOI:10.17759/sps.2021120106 (In Russ.).

22. Mukhina V.S. Lichnost': Mify i Real'nost' (Al'ternativnyi vzglyad. Sistemnyi podkhod. Innovatsionnye aspekty) [Personality: Myths and Reality (Alternative view. Systems approach. Innovative aspects)]. 7-e izd.: Moscow: Natsional'nyi knizhnyi tsentr, 2020. 1127 p.

23. Mukhina V.S. Shleify i spolokhi samosoznaniya narodov, zhivushchikh na planete zemlya [Trails and flashes of generic self-consciousness of people living at the earth. *Razvitie lichnosti* [*Development of Personality*[, 2017, no. 1, pp. 144—167. (In Russ.).

24. Mukhina V.S., Protsenko L.M., Khvostov K.A. Strategiya razvitiya samosoznaniya rossiyan [Strategy of development of self-consciosness of russian people]. *Razvitie lichnosti* [*Development of Personality*[, 2009, no. 3, pp. 16—30. (In Russ.).

25. Puchkina Yu.A., Timofeeva A.I. Ob"edinenie resursov sistemy obrazovaniya i grazhdanskogo obshchestva pri vystraivanii modeli profilakticheskoi raboty s det'mi «gruppy riska» [Elektronnyi resurs] [Combining the Resources of the Education System and Civil Society in Building a Model of Preventive Work with Children at «Risk Group»]. *Vestnik prakticheskoi psikhologii obrazovaniya* [*Bulletin of Practical Psychology of Education*], 2019, Vol. 16, no. 3, pp. 112—122. DOI:10.17759/bppe.2019160308 (In Russ.).

26. Sakharova T.N., Tamarskaya N.V., Stremilova O.V. et al. Strategii kompetentnostnogo razvitiya spetsialistov po rabote s molodezh'yu [Competence development strategies for youth workers]. *Yaroslavskii pedagogicheskii vestnik* [*Yaroslavl Pedagogical Bulletin*], 2021, no. 2 (119), pp. 26—32. DOI:10.20323/1813-145X-2021-2-119-26-32 (In Russ.).

24. *Мухина В.С., Проценко Л.М., Хвостов К.А.* Стратегия развития самосознания россиян // Развитие личности. 2009. № 3. С. 16—30.

25. *Пучкина Ю.А., Тимофеева А.И.* Объединение ресурсов системы образования и гражданского общества при выстраивании модели профилактической работы с детьми «группы риска» [Электронный ресурс] // Вестник практической психологии образования. 2019. Том 16. № 3. С. 112—122. DOI:10.17759/bppe.2019160308

26. *Сахарова Т.Н., Тамарская Н.В., Стремилова О.В. и др.* Стратегии компетентностного развития специалистов по работе с молодежью // Ярославский педагогический вестник. 2021. № 2(119). С. 26—32. DOI:10.20323/1813-145X-2021-2-119-26-32

27. Стратегия государственной национальной политики Российской Федерации на период до 2025 года (В редакции Указа Президента Российской Федерации от 06.12.2018 г. № 703) [Электронный ресурс] // Официальный интернет-портал правовой информации. URL: http://pravo.gov.ru/proxy/ips/?docbody=&nd=102161949 (дата обращения: 07.09.2021).

28. Стратегия научно-технологического развития Российской Федерации (В редакции Указа Президента Российской Федерации от 15.03.2021 № 143) [Электронный ресурс] // Сайт президента Российской Федерации. URL: http://www.kremlin.ru/acts/bank/41449/page/1 (дата обращения: 07.09.2021).

29. *Собкин В.С., Смыслова М.М., Коломиец Ю.О.* Миграционные установки аспирантов: к вопросу об «утечке мозгов» [Электронный ресурс] // Психолого-педагогические исследования. 2020. Том 12. № 3. С. 61—79. DOI:10.17759/psyedu.2020120304

30. *Соловьев В.С.* Русская идея // В.С. Соловьев. Соч.: в 2 т. Т. 2. М.: Правда, 1989. 735 с.

31. *Сорокоумова Е.А., Чердымова Е.И.* Развитие структурных компонентов экологического сознания для формирования гражданской идентичности личности // Психологическая наука и образование. 2021. Том 26. № 1. С. 102—112. DOI:10.17759/pse.2021260107

32. *Тарасов М.В.* Образ Родины: обоснование и апробация диагностического инструментария // Экспериментальная психология. 2020. Том 13. № 4. С. 205—219. DOI:10.17759/exppsy.2020130415

33. *Торопова А.В.* Музыкально-психологическая антропология как междисциплинарная область научных знаний // Музыкальное искусство и образование. 2019. Том 7. № 2. С. 24—40.

34. *Трубецкой Е.Н.* Старый и новый национальный мессианизм // Русская идея. М.: Республика, 1992. С. 241—257.

35. *Трубецкой Н.С.* Мы и другие // Избранное. М.: Российская политическая энциклопедия (РОССПЭН), 2010. С. 228—242.

36. *Филиппова С.А., Пазухина С.В., Куликова Т.И. и др.* Эмоциональная устойчивость будущих педагогов к негативному влиянию современной информационной среды // Психологическая наука и образование. 2019. Том 24. № 5. С. 80—90. DOI:10.17759/pse.2019240508

37. *Фурсенко Т.Ф.* Формирование ценностных ориентаций подростков музыкой народов мира // Психологическая наука и образование. 2019. Том 24. № 2. С. 29—36. DOI:10.17759/pse.2019240203

38. *Хухлаев О.Е., Александрова Е.А., Грищенко В.В. и др.* Идентификация с религиозной группой и этнонациональные установки буддистской, мусульманской и православной молодежи // Культурно-историческая психология. 2019. Том 15. № 3. С. 71—82. DOI:10.17759/chp.2019150308

27. Strategiya gosudarstvennoi natsional'noi politiki Rossiiskoi Federatsii na period do 2025 goda (V redaktsii Ukaza Prezidenta Rossiiskoi Federatsii ot 06.12.2018 g. N 703) [Elektronnyi resurs] [Strategy of the state nationality policy of the Russian Federation for the period up to 2025 (As amended by the Decree of the President of the Russian Federation of 06.12.2018 N 703)]. Ofitsial'nyi internet-portal pravovoi informatsii [Official Internet portal of legal information]. URL: http://pravo.gov.ru/proxy/ips/?docbody=&nd=102161949 (Accessed: 07.09.2021).

28. Strategiya nauchno-tekhnologicheskogo razvitiya Rossiiskoi Federatsii (V redaktsii Ukaza Prezidenta Rossiiskoi Federatsii ot 15.03.2021 № 143) [Elektronnyi resurs] [Strategy of scientific and technological development of the Russian Federation (As amended by the Decree of the President of the Russian Federation dated 03.15.2021 No. 143)]. Sait prezidenta Rossiiskoi Federatsii [Website of the President of the Russian Federation]. URL: http://www.kremlin.ru/acts/bank/41449/page/1 (Accessed: 07.09.2021).

29. Sobkin V.S., Smyslova M.M., Kolomiets Yu.O. Migration attitudes of graduate students: on the question of the «brain drain» [Migration attitudes of graduate students: on the issue of «brain drain»]. *Psikhologo-pedagogicheskie issledovaniya = Psychological Educational Studies*, 2020, Vol. 12, no. 3, pp. 61—79. DOI:10.17759/psyedu.2020120304 (In Russ.).

30. Solov'ev V.S. Russkaya ideya [Russian idea]. *Soch.: v 2 t. T. 2.* [*Collected Works: in 6 vol. Vol.3.*]. Moscow: Pravda, 1989. 735 p.

31. Sorokoumova E.A., Cherdymova E.I. Razvitie strukturnykh komponentov ekologicheskogo soznaniya dlya formirovaniya grazhdanskoi identichnosti lichnosti [Developing Structural Components of Ecological Consciousness to Promote Civic Identity Formation]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2021, Vol. 26, no. 1, pp. 102—112. DOI:10.17759/pse.2021260107 (In Russ.).

32. Tarasov M.V. Obraz Rodiny: obosnovanie i aprobatsiya diagnosticheskogo instrumentariya [Image of Motherland: Justification and Approbation of Diagnostic Tools]. *Eksperimental'naya psikhologiya = Experimental Psychology (Russia)*, 2020, Vol. 13, no. 4, pp. 205—219. DOI:10.17759/exppsy.2020130415 (In Russ.).

33. Toropova A. V. Muzykal'no-psikhologicheskaya antropologiya kak mezhdistsiplinarnaya oblast' nauchnykh znanii [Musical-psychological anthropology as an interdisciplinary field of scientific knowledge]. *Muzykal'noe iskusstvo i obrazovanie* [*Musical Art and Education*], 2019, vol. 7, no. 2, pp. 24—40 (in Russ.).

34. Trubetskoi E.N. Staryi i novyi natsional'nyi messianism [Old and new national messianism]. *Russkaya ideya* [*Russian idea*]. Moscow: Respublika, 1992, pp. 241—257.

35. Trubetskoi N.S. My i drugie [We and others] // *Izbrannoe* [*Selected works*]. Moscow: Rossiiskaya politicheskaya entsiklopediya (ROSSPEN), 2010, pp. 228—242.

36. Filippova S.A., Pazukhina S.V., Kulikova T.I. et al. Emotsional'naya ustoichivost' budushchikh pedagogov k negativnomu vliyaniyu sovremennoi informatsionnoi sredy [Emotional Resistance to Negative Impacts of Modern Information Environment in Future Teachers]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science and Education*, 2019, Vol. 24, no. 5, pp. 80—90. DOI:10.17759/pse.2019240508 (In Russ.).

37. Fursenko T.F. Formirovanie tsennostnykh orientatsii podrostkov muzykoi narodov mira [Value Orientations Development in Adolescents by Means of Folk Music]. *Psikhologicheskaya nauka i obrazovanie = Psychological Science*

39. *Хухлаев О.Е., Чибисова М.Ю., Усубян Ш.А.* Восприятие европейских ценностей и отношение к ним российских студентов-бакалавров московского вуза [Электронный ресурс] // Психолого-педагогические исследования. 2019. Том 11. № 2. С. 58—73. DOI:10.17759/psyedu.2019110206

40. *Чернышева Е.В.* Правосознание в детерминации коррупционного поведения [Электронный ресурс] // Психология и право. 2021. Том 11. № 2. С. 120—131. DOI:10.17759/psylaw.2021110209

41. *Шляпников В.Н.* Взаимосвязь показателей состояния волевой регуляции и этнической идентичности // Культурно-историческая психология. 2019. Том 15. № 3. С. 83—90. DOI:10.17759/chp.2019150309

and Education, 2019, Vol. 24, no. 2, pp. 29—36. DOI:10.17759/pse.2019240203 (In Russ.).

38. Khukhlaev O.Ye., Aleksandrova E.A., Gritsenko V.V. et al. Identifikatsiya s religioznoi gruppoi i etnonatsional'nye ustanovki buddistskoi, musul'manskoi i pravoslavnoi molodezhi [Religious Group Identification and Ethno-National Attitudes in Buddhist, Muslim and Orthodox Youth]. *Kul'turno-istoricheskaya psikhologiya = Cultural-historical psychology*, 2019, Vol. 15, no. 3, pp. 71—82. DOI:10.17759/chp.2019150308 (In Russ.).

39. Khukhlaev O.E., Chibisova M.Yu., Usubyan S.A. Vospriyatie evropeiskikh tsennostei i otnoshenie k nim rossiiskikh studentov-bakalavrov moskovskogo vuza [Elektronnyi resurs] [Perceptions and attitudes towards European values among Russian bachelor students of Moscow University]. *Psikhologo-pedagogicheskie issledovaniya = Psychological-Educational Studies*, 2019, Vol. 11, no. 2, pp. 58—73. DOI:10.17759/psyedu.2019110206 (In Russ.).

40. Chernysheva E.V. Pravosoznanie v determinatsii korruptsionnogo povedeniya [Elektronnyi resurs] [Legal consciousness in determination of corrupt behavior]. *Psikhologiya i pravo = Psychology and Law*, 2021, Vol. 11, no. 2, pp. 120—131. DOI:10.17759/psylaw.2021110209 (In Russ.).

41. Shlyapnikov V.N. Vzaimosvyaz' pokazatelei sostoyaniya volevoi regulyatsii i etnicheskoi identichnosti [Relationship between Volitional Regulation and Ethnic Identity]. *Kul'turno-istoricheskaya psikhologiya = Cultural-historical psychology*, 2019, Vol. 15, no. 3, pp. 83—90. DOI:10.17759/chp.2019150309 (In Russ.).

Information about the authors
Valeriya S. Mukhina, full member of the Russian Academy of Education, Doctor of Psychology, Professor, Scientific Director of the Department of Psychology of Personality Development, Moscow Pedagogical State University (MPGU), Moscow, Russia, ORCID: https://orcid.org/0000-0002-9417-6925, e-mail: rl-online@mail.ru

Sergey V. Melkov, PhD in Psychology, Associate Professor of the Department of Psychology of Personality Development, Moscow Pedagogical State University (MPGU), Moscow, Russia, ORCID: https://orcid.org/0000-0002-0670-6325, e-mail: sergey.melkov@gmail.com

Информация об авторах
Мухина Валерия Сергеевна, действительный член РАО, доктор психологических наук, профессор, научный руководитель кафедры психологии развития личности, Московский педагогический государственный университет (ФГБОУ ВО МПГУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-9417-6925, e-mail: rl-online@mail.ru

Мелков Сергей Викторович, кандидат психологических наук, доцент кафедры психологии развития личности, Московский педагогический государственный университет (ФГБОУ ВО МПГУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0002-0670-6325, e-mail: sergey.melkov@gmail.com

М.И. Розенова
Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0001-6976-5587, e-mail: profi1234@yandex.ru

Исследования психологических проблем семейных отношений и их влияния на взаимоотношения детей и подростков со сверстниками особенно важны для старшеклассников, стоящих на пороге взрослости. В статье представлен обзор российских и зарубежных публикаций, а также результаты эмпирического исследования влияния детско-родительских отношений на социометрический статус старшеклассников в группе сверстников. В эмпирическом исследовании приняли участие 106 человек: 53 учащихся десятых классов в возрасте от 15 до 16 лет (М=15,8), в том числе 24 девочки и 29 мальчиков, и их матери (N=53) в возрасте от 37 до 43 лет (М=40,4). Использованные методики: социометрический тест (Дж. Морено); опросник «Подростки о родителях» (ADOR/ПОР); опросник для родителей «Анализ семейных взаимоотношений» (АСВ). Полученные результаты позволяют утверждать, что старшеклассники с высоким социометрическим статусом реже сталкиваются с проявлениями директивности, враждебности и дистанцирования со стороны родителей. Отмечается, что низкий социометрический статус учащихся во многом связан с такими дисгармониями стилей воспитания, как гипопротекция и жестокое обращение.

Ключевые слова: социометрический статус, статусная дифференциация, детско-родительские отношения, типы семейного воспитания, подросток, ранняя юность.

Introduction

The transition to high school characterizes the period of early adolescence, which is a period of transition from childhood to adulthood. During this period, the relationship of the student with parents and peers are of particular importance. The high school student seeks to take a worthy place in the system of interpersonal relationships with peers, to gain their recognition and respect. At the same time, the relationship with parents remains significant, although it undergoes certain changes.

The relevance of studying the impact of parent-child relationship on the sociometric status of high school students is due to the fact that the family is the first and most important institution of socialization, where the foundations of the child's personality are laid, his attitude to himself and others, patterns of interpersonal interaction are formed.

The problem of the influence of the family on the development of the child's personality and his relationship with peers has been the subject of research by many domestic and foreign scientists. However, despite the significant number of works devoted to this problem, the question of the specific impact of parent-child relationship on the sociometric status of high school students in the peer group remains insufficiently studied.

М.И. Розенова

Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ),
г. Москва, Российская Федерация
ORCID: https://orcid.org/0000-0001-6976-5587, e-mail: profi1234@yandex.ru

Исследование психологических проблем семейных отношений и их влияния на характер взаимодействия взрослеющего ребенка с окружающими приобретает особое значение в отношении старшеклассников, стоящих на пороге взрослости. В статье представлен обзор отечественных и зарубежных публикаций по проблеме, а также результаты эмпирического исследования влияния внутрисемейных отношений на социометрический статус старшеклассников. В эмпирическом исследовании (N=106) приняли участие учащиеся десятых классов в возрасте от 15 до 16 лет (М=15,8), из них 24 девушки и 29 юношей, а также их матери (N=53) в возрасте от 37 до 43 лет (М=40,4). Использовались методики: социометрический тест (Дж. Морено); опросник «Подростки о родителях» (ADOR/ПОР); опросник для родителей «Анализ семейных взаимоотношений» (АСВ). Полученные результаты позволяют утверждать, что старшеклассники, имеющие высокий социометрический статус, реже сталкиваются с проявлениями директивности, враждебности и дистанцирования со стороны родителей. Отмечается, что низкий социометрический статус старшего школьника в значительной степени связан с такими дисгармониями семейного воспитания, как гипопротекция и жестокое обращение.

Ключевые слова: социометрический статус, статусная дифференциация, детско-родительские отношения, типы семейного воспитания, подросток, ранний юношеский возраст.

Introduction

The psychological problems of family relations and their influence on formation of the child's personality are not new to psychology and pedagogy. However, the modern social situation, which is characterized by changes in the value orientations of society, a decrease in the subjective value of the family, and changes in intra-family roles, requires further study of the family institution, as well as the impact of intra-family relations on the interactions of a growing child with others. This is especially important for high school students who are on the verge of adulthood.

Family relationships are important for personality at any age period, however, in adolescence (15—18 years old) they seem to be sidelined, which is due to a decrease in the reference status of the family and parents. At the same time, implicitly the family and parental position still play an essential role in the personal development of a high school student. Adolescence is sensitive to the formation of attitudes towards oneself, to the outside world and other people, which determines the basis of worldview and the core of motivation of the person in the future.

Analysis of Research and Publications on the Problem

The established system of relations in the family, first of all, parent-child relations, is extremely essential for successful socialization of a growing child. The special features of parental communication influence the psychological well-being of the child as a whole [1; 3; 15; 17], as well as its separate components: the attitude to the body, the level of social anxiety, propensity to depression, faith in the world, etc. According to O.A. Karabanova [5], the key role in the life activity of a family is played by the intrafamily interpersonal communication, which determines the efficiency of its functioning, resources of growth and development.

The family context, mediating a child's "ingrowth into the culture", has a profound effect on the formation of his or her personality [5]. "An essential factor in the psychological well-being of an adolescent is the nature of parent-child relationships, parenting style, parental competence, the presence of affection and empathy, in other words, everything that determines the relationship between family members" [3, p. 53]. Communicative and parental competence, openness in communication significantly increases psychological well-being of a high school student.

Despite the fact that initially the absolute influence of parents on the child weakens and loses its dominant role during ontogenesis, the parental attitudes, parenting styles, and attitudes towards a child usually remain critical during the stages of active personality formation [15; 21]. Interpersonal relations in the family are of a particular importance during adolescence because of the active formation of self-awareness and self-determination of a person in this period.

A number of studies are devoted to the analysis of parental relationships and attitudes, styles and strategies of family upbringing [1; 3; 9; 12; 15; 17; 19; 21], and focused on the parental position, while the reverse side — the adolescents' strategies of interaction with parents — remains less studied, though actualized by many researchers [8; 9; 14; 16]. Acting as a subject of relations with parents, a high school student tries his or her own strategies of interpersonal relations, being forced by the age process of separation [8; 12; 14; 19].

A.I. Koshel understands the strategy of interaction of adolescents with parents as "a set of dominant qualities of his (her) behavior in relations with parents caused by the social situation of development (achieving emancipation in parent-child relations)" [8, p. 11]. The basic strategies of interaction of high school students with parents are cooperation, submission, and counteraction.

Researchers emphasize the nonidentity of parental upbringing modes and teenagers' perceptions of them, and this discrepancy increases with age. It is important that teenagers' ideas about parenting form the basis of their attitude not only to their parents, but also to themselves and others [5]. High school students with the strategy of interaction with parents such as cooperation are characterized by striving for self-actualization, high-speed development of subjective personality qualities and formation of precise boundaries with parental figures [4; 16].

"The strategy of submission is characterized by the expressed need for support and guidance from parents. In their behavior high school students seek to avoid conflicts, and to take passive position in situations of vital choice, being guided by parental desires" [8, p. 11].

The strategy of counteraction is expressed in rebellion, when the actions of the adolescent are dictated by the desire to act in opposition to what is expected from it, and the choice of this strategy is also largely determined by the opinion of others [5; 12].

"Strategies of submission and opposition are destructive, they are based on the frustrated need for self-actualization, they differ in the behavioral reactions of adolescents to the educational position of parents. The formation mechanism of adolescents' interaction strategies has the ontogenetic aspect of the autonomy and closeness in relations balance" [8, p. 11]. This is confirmed by the results of empirical researches of adolescents with different strategies of child-parent relations, conducted by A.N. Koshel [8]. In the senior school age, the qualitative changes of peer relations of boys and girls occur, as the "values and senses" themes come to the foreground, their understanding of human behavior motivation increases, the anxiety in relations and the sharpness of interpersonal conflicts decreases, the repertoire of social roles expands, and the independence from authority is being actively formed. These special characteristics are discussed both in classical (O.A. Karabanova, J.L. Kolominsky, I.S. Kon) [5; 6; 7] and modern psychological studies (A.I. Koshel, N.N. Poskrebysheva, V.S. Sobkin, Y.O. Kolomiets, E.A. Kalashnikova) [8; 12; 14].

However, a number of authors [4; 5; 8] emphasize a certain disharmony in relations of high school students — conflicts, tensions and aggression, as well as their insufficient ability to constructively resolve disagreements and conflicts arising in interpersonal relationship, due to both external factors and subjective qualities of the personality.

The processes of interpersonal communication are particularly acute in groups of adolescents. A vivid example is a peer group acting as the reference environment in which an adolescent "trains"before entering the world of adult interpersonal relations. The majority of researches are devoted to the study of adolescents personal status in social groups, and they are characterized by the bipolar approach aimed at revealing the causes of his (her) high or low status — the leader or the outsider.

High school students with a low-status position often act as potential victims of bullying — one of the most widespread types of violence at school, which manifests itself in verbal and physical forms of aggression. As V.I. Ekimova and A.M. Zalaldinova note, the victims of bullying are characterized by low self-esteem, sense of guilt, poorly developed communicative skills, and extremely limited circle of friends, as well as the fear of school and interpersonal communications. However, these characteristics may be both the causes and the consequences of bullying [2]. The psychology of leaders and outsiders has been investigated in a number of works [2; 3; 4; 6; 8], while the category of middle-status group members is less studied [4; 8; 13].

One of the directions in the study of interpersonal relations is the analysis of intragroup relations in terms of their significance for each of the participants. Within this framework A.V. Petrovsky has developed a "three-factor model of the significant other", according to which each factor is a form of the personality meta-individual representation of the "significant other" [11]. The combination of three bases of interpersonal significance — authority (recognition of the right of the "significant other" to make responsible decisions significant for others), attraction (the ability of the "significant other" to attract or repel others, cause sympathy or antipathy) and power (the institutionalized role) — reflects the ways of the intragroup status-role relations determination [13].

The results of E.S. Mahlach researches are rather interesting, as they testify that a student's "high sociometric status is provided by the combination of three factors: 1) the actual development of positive personality qualities valued by the group; 2) the concurrence of

personal values with those of the group; 3) underestimation of especially valued by the group personality qualities" [10, p. 187]. J.L. Kolominsky [6] associates the last factor with the "paradox of awareness" of a high status in the group.

A special area of socio-psychological researches is the investigation of the interconnection between parent-child relationships and interpersonal relations with peers, as well as their joint influence on social and psychological adaptation in adolescence [3; 9; 14; 18;19; 21]. G. Ladd and Z. Parke present the theoretical approaches and empirical studies review of the influence of family processes on the child's relationships with peers for thirty years. They analyze the direct and indirect effects of family relationships on interpersonal relations of children and adolescents, reverse impact of communication with peers on relationships with parents, they identify the problems for a special study and directions for further investigation [18].

The study by M.V. Ermolaeva and O.V. Smirnova [3] has revealed the close connection between adolescents' subjective assessment of psychological well-being, happiness, and life satisfaction, their evaluation of communications with peers, and the perception of intrafamily relationships. They assume, that the adolescents' high assessments of cooperation with parents and satisfaction with peer communications is associated with a high or, on the contrary, low level of the parents' sociability. At the average level of sociability of adults, the student's satisfaction with interactions in the family and in peer groups decreases appreciably [3].

The recent foreign researches testify that closeness and type of attachment in adolescents' family relations determines not only the high level of their emotional well-being, but also the successful social and psychological adaptation in peer groups, and peer preference [17; 18; 19; 20; 21].

The purpose of this empirical study is to evaluate the impact of intrafamily relationships on the sociometric status of a high school student.

Empirical tools are represented by the following methods: the sociometric test (J. Moreno); "Adolescents about Parents Questionnaire" (ADOR/ POR) — the modification by Z. Matejchik and P. Rzichan of "Children's Report of Parental Behavior Inventory" (E. Shaefer); questionnaire for parents "Analysis of family relations" — AFR (E.G. Eidemiller, V.V. Justitskis).

Results and Discussion

A total of 53 tenth grade students aged 15 to 16 (M=15,8), including 24 girls and 29 boys, as well as their mothers (N=53) aged 37 to 43 years old (M=40,4) took part in the study with a total of 106 respondents.

The sociometric status of a high school student in the system of interpersonal relations in a study class was determined using the sociometric test. Depending on the number of choices received, the subject was attributed to one of five status categories: "stars", "preferred", "neglected", "isolated " or "rejected" ("outsiders").

The status categories of "stars" (20,7%) and "preferred" (23,0%) included 43,7% of respondents; this position was especially favorable for adolescents, as it reflected peer acceptance. Among the unpopular high school students were "neglected", "rejected" and "isolated" groups. Unfavorable sociometric status was revealed for 56,3% of students.

A significant part of adolescents belonged to "neglected" category (30,3%). This category was less favorable in comparison with the "stars" and "preferred", as these students were considered not enough attractive and of no importance for their classmates.

According to the results of the study, 18,7% of high school students had the status of "isolated", as they received the minimum number of choices. These adolescents were not in the peers' register, neither at the level of feelings, nor at the level of relationships.

The rejected students received negative choices, which implicitly determined the level of their social rejection. In the study, 7,3% of high school students had the status of "outsiders".

The assessment of parents' attitudes, behaviors, and parenting methods from the perspective of high school students was conducted with "Adolescents' about Parents Questionnaire". Due to the fact that 21,8% of the subjects had no answers related to fathers, we considered the results obtained as adolescents' perception of their mothers' parenting behaviors.

More than a half of high school students rated their mothers' directiveness as high and medium (37,4% and 28,1%, respectively), that indicated strict adult control, aptitude for power, and lack of interest in the opinion of an adolescent.

From the point of view of a significant part of students (50,4%), the hostility of their mothers was expressed at the middle level. Probably, it was connected with the age characteristics of conflict-prone adolescents, and incomplete crisis manifestations. The hostility of the mother in relationships with her son was manifested in excessive severity, aggressiveness, self-focus, and self-assertion in communication. Girls perceived the mother's behavior as hostile if she was distanced, cut off from the family, first of all from the children.

The majority of parents manifested the middle and low (respectively, 44,4% and 41,4%) level of autonomy, and a certain detachment from adolescents, with more freedom and autonomy than they might expect. At the same time, boys perceived their mothers' autonomy as

a dictate, a total suppression of their will and desires. As for girls, they considered the mother's independence from her daughter, her well-being and her needs to be the manifestation of autonomy. Such mothers were assessed by girls as indulgent, undemanding.

From the point of view of both boys and girls, the inconsistency of parents in matters of upbringing was especially pronounced (a high level of parental inconsistency was noted by 62,7% of the respondents). This model of relations implied frequent changes in the style of parenting and interactions, from liberal to directive, and vice versa, as well as from emotional acceptance to coldness and rejection with interaction models changing with maximum amplitude.

Proximity factor, as a derivative of the combination of beneficence and hostility, was expressed in parents at the middle and low level. More than a third of high school students (37,4%) perceived their mothers as aloof, emotionally rejecting, not showing warm feelings enough.

At its high values the factor of criticism (the derivative of directivity and autonomy) reflected considerable interest and total control on the part of parent, though the majority of adolescents assessed it as manifested in their parents at the middle and low level. A considerable part of students (44,4%) perceived the mothers' attitude to them as lack of interest in their experience, relations and affairs.

It is possible to assume, that the results received are determined by the age-specific features of high school students. Being focused on themselves and on their own relations with others, adolescents tend to perceive the parents as insufficiently interested and attentive to their inner world and experience.

In addition, the adolescents' system of values and life goals is still being formed, often in opposition to the values inherent in the parental family. In some cases, this may be the cause of the student perception of parents as aloof, unconcerned, and critical.

To identify the interconnection between parent-child relationships and the sociometric status of high school students in the peer group, the statistical assess-ment of indicators' differences between sociometric status groups has been conducted with the Mann-Whitney U-test. The results are presented in Table 1. The indicators of high school students' perception of family upbringing are compared pairwise in groups with different sociometric status. To reduce the dimensionality of data, the sample has been divided into three groups: 1) "preferred" ("stars" and "accepted"); 2) "neglected"; and 3) "rejected" ("isolated" and "outsiders"). The validity of such recombination is confirmed by the results of the pairwise comparison of different status groups results, as none statistically significant differences has been revealed between "stars" and "accepted", as well as between "outsiders" and "isolated" ($\rho \leq 0,05$).

The comparison of ADOR scales has revealed the significant differences between group indicators of 'preferred' and 'neglected' in a number of adolescents' assessments of parental behaviors: directiveness (U = 14; p< 0,01), hostility (U = 28; p< 0,01) and autonomy (U = 35; p< 0,05). High school students with the high sociometric status in a peer group, in comparison with "neglected", are less likely to face directiveness, hostility and indifference from their parents.

Boys and girls with a high sociometric status rate the benevolence of their parents higher, and the directiveness, hostility and inconsistency lower than "rejected".

These results allow to conclude that adolescents with the high sociometric status in a peer group perceive their family relationships as harmonious and constructive, in contrast to "neglected" and "rejected" adolescents. At the same time, the respondents with the low sociometric status as usual highly estimate the directiveness, hostility, and inconsistency of parents.

On the results of "Adolescents' about Parents Questionnaire", the characteristics of maternal behavior are identified, such as the degree of satisfaction of a child's needs, the level of a child's protection, the number of requirements.

According to the results obtained, the common parenting styles of adolescents' mothers are "dominant

T a b l e   1

The Empirical Values of the Mann-Whitney U-test

Sociometric status / ADOR scales	Groups of high school students with different sociometric status		
	1 and 2	**1 and 3**	**2 and 3**
Kindness	62	**18,5**	48,5
Directivity	**14**	*34*	**14**
Hostility	**28**	*30*	**22,5**
Autonomy	*35*	55,5	41
Inconsistency	46	**22**	32

Note: empirical U values pointing statistically significant differences at p ≤0,01 are in bold; empirical U values pointing statistically significant differences at p ≤0,05 are in italic; 1 — preferred, 2 — neglected, 3 — rejected.

hyperprotection" (22,6%) and "indulgent hyperprotection" (17,0%). Hyperprotective parents devote a great deal of their attention and time to a child, and the child's upbringing stands at the center point of their lives.

The style of "increased moral responsibility" has been revealed in 15,5% of mothers; this type of upbringing assumes high, and even excessive, requirements of parents to adolescents without taking into account individual and age characteristics.

"Emotional rejection" is true for 15,1% of mothers. In case of "maltreatment" (7,5%), the emotional rejection manifests itself in physical punishment of a child, ignoring his or her needs, and the prohibition of pleasure.

The parental style of "hypoprotection" has been detected in 11,3% of mothers. It is manifested in a lack of interest in and control over a child, when his or her needs, interests, actions, and even life are ignored by the parents.

11,3% of mothers show no predominance of any style, which may be due to either social desirability of their responses, or the adequacy of their upbringing methods, and the absence of pronounced manifestations of disharmonious styles.

Table 2 illustrates the relations of the sociometric status of high school students and the predominant type of parental upbringing.

As it is seen in Table 2, the types of parenting in families of adolescents from different sociometric groups differ markedly. Thus, "indulgent hyperprotection" is more pronounced in the families of students of "preferred" (29,4%) and "neglected" (35,8%) groups, and is rare in the parents of "rejected" teenagers (5,5%).

The level of protection in the upbringing process is estimated by the scales of "hyperprotection" and "hypoprotection", and indicates the amount of attention and time (excessive or insufficient), which parents devote to their child.

Parents with "dominant hyperprotection" style subordinate their family life to the interests of a child, being ready to satisfy any of his or her needs and desires. This type of upbringing promotes the development of demonstrative and hyperthymic characteristics of the personality, which usually causes activity, predominantly heightened mood, and desire to attract the attention of others. All this allows a high school student to take the high sociometric position in a peer group.

Adolescents from families with "dominant hyperprotection" parenting style often belong to the "preferred" category (33,0%). In the groups of "neglected" and "rejected" adolescents, this type of upbringing is quite rare (14,3% and 11,1%, respectively). The "dominant hyperprotective" parents seek to direct the life of adolescents in all spheres, and deprive them of autonomy by numerous restrictions and prohibitions. The results of this are apparently bipolar. Some of high school students show independence and autonomy in the areas available to them (for example, in peer groups), they tend to take responsibility for their actions and for joint actions, by which provide themselves the high sociometric status in a group. On the contrary, some adolescents, become weak-willed, with a lack of initiative, and consequently, they are accorded low status.

The parenting style of "increased moral responsibility" may determine the low sociometric status of adolescents, as they more often belong to the categories of "neglected" (21,4%) and "rejected" (16,8%), than to "preferred" (4,6%). This upbringing type, associated with excessive demands to a child, is not contributing to his or her development, on the contrary, it is unfavorable and traumatic. In some cases, the parental obligations (housekeeping, care for younger siblings, aged relatives, etc.) are transferred to the adolescent not capable to cope with them. In other cases, the success in different activities (sports, study, creative work, etc.) is expected from a child regardless of his or her abilities and capabilities. Usually, parents are not aware of excessiveness of their requirements, and are convinced that they create the necessary conditions for the development of independence and vitality of a child.

The style of "emotional rejection" occurs more often among the mothers of students in "preferred" (19,2%) and "rejected" (22,2%) groups. This disharmonious type of parenting is caused by the parents'

Table 2

The Relations of the Sociometric Status of High School Students and Parenting Styles (in %)

Status \ Type of parenting	Preferred	Neglected	Rejected
Indulgent hyperprotection	29,4	35,8	5,5
Dominant hyperprotection	33,0	14,3	11,1
Increased moral responsibility	4,6	21,4	16,8
Emotional rejection	19,2	7,1	22,2
Maltreatment	0,0	7,1	16,8
Hypoprotection	4,6	14,3	22,2
Disharmonious types of parenting are not identified	9,2	0,0	5,5

conscious or unconscious identification of a child with some negative factors of their own lives. In such a situation, the child may feel that he or she is a nuisance in the life of the parents, who have established a great distance in their relationships. In this case, some adolescents may be aspired to compensate their need for acceptance and love by the group of peers, which causes their sociability, orientation to the group, and the desire to achieve a high-status position. At the same time, "emotional rejection" by parents may provoke in a child the formation of such character traits as unmotivated aggression, explosiveness, considerable part of adolescents.

The "maltreatment" style is inherent to mothers of high school students with a low sociometric status in the study class (16,8%), and to less extent of those with the middle status (7,1%). It hasn't been also revealed in the group of "preferred" (0,0%). The abusive treatment implies excessive severity of sanctions applied by parents in case of a child violates the requirements and rules, and the harsh response even to minor behavioral disturbances. Probably, the inadequately strict sanctions from parents lead to emotional deprivation of adolescents [4], which determines their outsider position in the peer group.

The "hypoprotection" style implies insufficiently low attention to a child from parents. It has been revealed on a fifth of "rejected" students (22,2%), in 14,3% of "neglected", and in 4,6% of "preferred" ones. In other words, being on the periphery of parents' attention, the adolescent often has a low sociometric status in the peer group.

Some parents (11,3%) don't report of disharmonious types of parenting, which may be related both to the adequacy of parenting styles and to the social desirability of their answers given in questionnaire. Probably, the first option is characteristic for families of adolescents with the high sociometric status (9,2% of

"preferred"); the second option is characteristic for those "rejected" (5,5%).

The correlation analysis of empirical data was carried out to reveal the linkage between the types of parenting styles and the sociometric status of high school students. The results are presented in table 3.

The multivariate statistical analysis has revealed stable correlations between the certain types of family upbringing. Thus, "indulgent hyperprotection"' has negative correlations with all other types of disharmonious upbringing: "dominant hyperprotection", "increased moral responsibility", "emotional rejection", "maltreatment" and "hypoprotection" (ρ ≤ 0,01).

At the same time, "dominant hyperprotection" is directly related to "increased moral responsibility" and has inverse correlations with "emotional rejection". Thus, "emotional rejection" is directly correlated with "hypoprotection" (ρ ≤ 0,01).

Some significant correlations have been found between the parenting types and the sociometric status of high school students. "Indulgent hyperprotection" and "dominant hyperprotection" directly correlates with sociometric status, though a linkage is less stable (ρ ≤ 0,05), than the correlations between different types of parental upbringing. It may be assumed that the high sociometric status of the "hyperprotected" adolescents is caused in this case by their habit to be the center of the family, which may be to a certain extend transferred to interpersonal relations with peers.

When simultaneous manifestation of "hyperprotection" and excessive requirements-prohibitions (domination) occur, the parents tend to control all spheres of the adolescent's life, and deprive him or her of independence and autonomy. The consequence of this may be both a pronounced reaction of emancipation and a low social activity. Apparently, the adolescents with aspiration to

Table 3

Results of the Correlation Analysis of Parenting Styles and the Sociometric Status of Adolescents

Type of parenting	Indulgent hyperprotection	Dominant hyperprotection	Increased moral	Emotional rejection	Maltreatment	Hypoprotection	Sociometric status
Indulgent hyperprotection	1						
Dominant hyperprotection	**-0,487**	1					
Increased moral responsibility	**-0,520**	**0,458**	1				
Emotional rejection	**-0,687**	**-0,511**	0,212	1			
Maltreatment	-0,414	0,225	0,158	*1,312*	1		
Hypoprotection	**-0,627**	**-0,598**	0,168	**0,423**	0,195	1	
Sociometric status	*0,289*	*0,275*	0,221	*-0,248*	**-0,381**	**-0,395**	1

Note: empirical U values prevailing the critical ones at statistically significant level at p ≤0,01 are in bold; at p ≤0,05 – in italic.

autonomy tend to occupy high sociometric positions in a peer group.

The low sociometric status of a student is consistently associated with such disharmonious types of parenting as "emotional rejection" ($\rho \leq 0,05$), "hypoprotection" ($\rho \leq 0,01$), and "maltreatment" ($\rho \leq 0,01$). Obviously, the lower the sociometric status of the adolescent is, the more these two parenting styles are manifested in the family.

"Emotional rejection" combined with the insufficient support ("hypoprotection") often associates with "maltreatment" such as punishment, first of all physical, pleasure deprivation, and ignoring of a child s needs. This upbringing type leads to the formation of the unstable, explosive character, inadequate self-esteem, and enhances the possibility of neurotic disorders. These characteristics, apparently, explain the low status of such adolescents in a peer group.

In case of "hypoprotection", a high school student is left to himself, his parents are not interested in him or her, and the parental control function implementation. If adolescents do not receive necessary attention and emotional acceptance in the family, they either try to compensate this in a peer group or become insecure, suspicious, which negatively affects their relations with classmates and causes a low sociometric status.

Findings and Conclusions

Family upbringing is a determining condition of personal growth and efficacy of interpersonal relations in adolescence. High school students, being grown up in a disharmonious family, may experience significant difficulties in establishing informal interpersonal relations, or may seek to compensate lack of emotional closeness in the family by full immersion in peer relationships, while seeking in them support and acceptance.

The family models, forms and mechanisms of relationships are applied by adolescents in peer relations and determine the efficiency of solving the problem of emancipation in the system of parent-child relations. Strategies of submission and counteraction used by adolescents have a destructive impact on their personal development, the formation of subjective position, psychological sovereignty, and interpersonal relationships with peers.

The sociometric status of a high school student in the peer group is determined by a number of factors: emotional and personal qualities, visual appeal, the level of intellectual development, commitment and activity, success in peer relations, ability to take responsibility, ability to organize joint activities etc.

Characteristics and the type of parents-child relations decisively determine the character of the adolescent's peer relations, a level of authority and attractiveness, and the status-role position. It was revealed that high school students with a high sociometric status not so often face directiveness, hostility and distancing on the part of their parents, as the low-status ones. They more often perceive their family situation as harmonious, favorable and constructive.

Adolescents with a high sociometric status evaluate the benevolence of their parents higher, than their school-mates from "neglected" and "rejected" groups. On the contrary, the parents of students with a low sociometric status are more often directive, hostile, and inconsistent in their parental position.

The "dominant hyperprotection" parenting style is typical for parents of a high and middle-status students ("preferred" and "neglected"), but it's rarely observed in parents of "rejected" adolescents. High school students whose mothers show "dominant hyperprotection" toward them are most often in the "preferred" status group, but they may also appear in the middle- and the low-status positions.

Similarly, mothers of both the high-status and the low-status students may exhibit "emotionally rejective" style of parenting. The perhaps reason for the polarity of students' statuses is that adolescents react differently to inadequate types of family upbringing, which, in turn, determines the nature of their interaction with peers and their sociometric status in the study group.

A low sociometric status of the adolescent is relative to the family upbringing disharmonies such as "hypoprotection", "neglect of needs", "increased moral responsibility" and "maltreatment".

Thus, we may resume that psychological acceptance on the part of the parents, moderate control over social connections, and a sufficient level of support have a positive effect on the sociometric status of high school students, whereas hostility, directivity, "inconsistency in educational positions", as well as "emotional rejection", "maltreatment", and "hypoprotection" result in the low sociometric status of students in the peer group.

"Emotional rejection" together with "insufficient support" is often combined with abusive parental behavior ("maltreatment"), which manifests itself in the form of punishments, especially physical, pleasure deprivation and ignoring of a child's needs. Such parenting type leads to the development in adolescents the unstable, explosive character, inadequate self-esteem and possible neurotic disorders. These characteristics, apparently, explain the low status of some students in a peer group.

In case of "hypoprotection" adolescents are left to themselves, as the parents are not interested in them and do not control their behaviors. If high school students do not receive the necessary attention and emotional ac-ceptance in the family, they either try to compensate for it in a peer group or become aloof, insecure, suspicious, which negatively affects their relations with classmates and leads to a low sociometric status.

References

1. Dubrovina I. V. Psihologicheskaya gotovnost' k semejnoj zhizni kak aspekt samoopredeleniya [Psychological readiness for family life as an aspect of self-determination] *Sem'ya, brak i roditel'stvo v sovremennoj Rossii* [*Family, marriage and parenthood in modern Russia*]. Second issue, Moscow, Russian Academy of Science, 2015, pp. 86—95. Available at: https://lib.ipran.ru/upload/papers/paper_24787025. pdf#page=86 (Accessed 17.02.2022). (In Russ.).

2. Ekimova V.I., Zalaldinova A.M. Victims and offenders in a situation of bulling: who are they? *Sovremennaya zarubezhnaya psihologiya = Journal of Modern Foreign Psychology,* 2015. Vol. 4, no. 4, pp. 5—10. Available at: http://psychlib.ru/mgppu/ periodica/SZP_4_2015/SZP—0052. htm#n0d (Accessed 17.02.2022). (In Russ.).

3. Ermolaeva M.V., Smirnova O.V. Characteristics of parental communication as a factor of adolescents' psychological well—being. *Psihologicheskaya nauka i obrazovanie = Psychological Sience and Education,* 2020. Vol. 25, no. 1, pp. 51—62. DOI:10.17759/pse.2020250105 (In Russ.).

4. Ibadullaeva G.M. Psychological aspects of the study of sociometric status in adolescents. *Vostochno-evropejskij nauchnyj zhurnal* [*East-European Journal of Science*], 2021. Vol. 67, no. 3—4, pp. 41—52. Available at:: https://www.elibrary.ru/item.asp?id=45661856 (Accessed 17.02.2022). (In Russ.).

5. Karabanova O.A., Poskrebysheva N.N. The development of the personality autonomy in adolescence in the child—parent and adolescent-peer relations. *Vestnik Moskovskogo universiteta. Seriya 14. Psihologiya* [*Moscow University Psychology Bulletin*], 2011, no. 2, pp. 35—46. Available at: https:// http://msupsyj.ru/articles/detail.php?article=1994&sphrase_id=32174 (Accessed 17.02.2022). (In Russ.).

6. Kolominskij Ya.L. Social'naya psihologiya vzaimootnoshenij v malyh gruppah [Social psychology of relationship in small groups]. *Moscow, AST, Prime-Evroznak,* 2010. 446 pp. Available at: https://iknigi.net/avtor-yakov-kolominskiy/72592-socialnaya-psihologiya-vzaimootnosheniy-v-malyh-gruppah-uchebnoe-posobie-dlya-psihologov-pedagogov-sociologov-yakov-kolominskiy/read/page-1.html (data obrashcheniya: 17.02.2022).

7. Kon I.S. Psihologiya starsheklassnika [Psychology of a high school student]. *Moscow, Pedagogic,* 1982. 207 pp. Available at: https://search.rsl.ru/ru/record/01001032322 (Accessed 17.02.2022). (In Russ.).

8. Koshel' A.I. Osobennosti otnoshenij so sverstnikami starsheklassnikov s raznymi strategiyami vzaimodejstviya s roditelyami [Specialties of peer relations of high school students with different strategies of interaction with parents]. *Dissertation Abstract, Rostov-on-Don*, 2015, 24 pp. Available at: https://new-disser.ru/_avtoreferats/01008121734.pdf (Accessed 17.02.2022). (In Russ.).

9. Makarova A.V. Psihologicheskie osobennosti obshcheniya i mezhlichnostnyh otnoshenij v mladshem yunosheskom vozraste [Psychological characteristics of communication and interpersonal relationships in younger

Литература

1. *Дубровина И. В.* Психологическая готовность к семейной жизни как аспект самоопределения [Электронный ресурс] // Семья, брак и родительство в современной России. Вып. 2. М.: Изд-во «Институт психологии РАН». 2015. С. 86—95. URL: https://lib.ipran.ru/upload/papers/paper_24787025.pdf#page=86 (дата обращения: 17.02.2022).

2. *Екимова В.И., Залалдинова А.М.* Жертвы и обидчики в ситуации буллинга: кто они? [Электронный ресурс] // Современная зарубежная психология. 2015. Том 4. № 4. С. 5—10. URL: http://psychlib.ru/mgppu/ periodica/ SZP_4_2015/SZP-0052.htm#n0d (дата обращения: 17.02.2022).

3. *Ермолаева М.В., Смирнова О.В.* Особенности родительского общения как фактор психологического благополучия подростков [Электронный ресурс] // Психологическая наука и образование. 2020. Том 25. № 1. С. 51—62. URL: https://psyjournals.ru/files/112515/pse_2020_n1.pdf#page=52 (дата обращения: 17.02.2022).

4. *Ибадуллаева Г.М.* Психологические аспекты исследования социометрического статуса у подростков [Электронный ресурс] // Восточно-европейский научный журнал. 2021. №. 3—4(67). С. 41—52. URL: https://www.elibrary.ru/item.asp?id=45661856 (дата обращения: 17.02.2022).

5. *Карабанова О.А., Поскребышева Н.Н.* Развитие личностной автономии подростков в отношениях с родителями и сверстниками [Электронный ресурс] // Вестник Московского университета. Серия 14. Психология. 2011. № 2. С. 35—46. URL: https:// http://msupsyj.ru/articles/detail.php?article=1994&sphrase_id=32174 (дата обращения: 17.02.2022).

6. *Коломинский Я.Л.* Социальная психология взаимоотношений в малых группах [Электронный ресурс]. М.: АСТ, Прайм-Еврознак, 2010. 446 с. URL: https://iknigi.net/avtor-yakov-kolominskiy/72592-socialnaya-psihologiya-vzaimootnosheniy-v-malyh-gruppah-uchebnoe-posobie-dlya-psihologov-pedagogov-sociologov-yakov-kolominskiy/read/page-1.html (дата обращения: 17.02.2022).

7. *Кон И.С.* Психология старшеклассника [Электронный ресурс]. М.: Педагогика, 1982. 207 с. URL: https://search.rsl.ru/ru/record/01001032322 (дата обращения: 17.02.2022).

8. *Кошель А.И.* Особенности отношений со сверстниками старшеклассников с разными стратегиями взаимодействия с родителями [Электронный ресурс]: автореф. дис. ... канд. психол. наук. Ростов-на-Дону, 2015. 24 с. URL: https://new-disser.ru/_avtoreferats/01008121734.pdf (дата обращения: 17.02.2022).

9. *Макарова А.В.* Психологические особенности общения и межличностных отношений в младшем юношеском возрасте [Электронный ресурс] // Психология личности. Магнитогорск: МГТИ имени Г.И. Носова. 2019. С. 234—241. URL: https://www.elibrary.ru/item.asp?id=38027366 (дата обращения: 17.02.2022).

10. *Махлах Е.С., Гинзбург М.Р., Лебедев Р.Л.* К характеристике связи между социометрическим

adolescence]. *Psihologiya lichnosti* [*Psychology of Personality, Magnitogorsk*]*,* 2019, pp. 234—241. Available at: https://www.elibrary.ru/item.asp?id=38027366 (Accessed 17.02.2022). (In Russ.).

10. Mahlah E.S., Ginzburg M.R., Lebedev R.L. K harakteristike svyazi mezhdu sociometricheskim statusom uchashchihsya i ih lichnymi kachestvami [To evaluate the relationship between the sociometric status of students and their personal qualities]. *Materialy Chetvertogo s"ezda obshchestva psihologov* [*Materials of the Forth Congress of Psychologists*], Tbilisi, 1971, pp. 187—188.

11. Petrovskij A.V. Three factor model of «significant other». *Voprosy psihologii,* 1991, no. 1, pp. 7—17. (In Russ.).

12. Poskrebysheva H.H., Babkina A.Yu. Family factors of autonomy development and separation processes in adolescence. *Vestnik Moskovskogo universiteta. Seriya 15. Psihologiya* [*Moscow University Psychology Bulletin*]*,* 2020, no. 3, pp. 120—146. (In Russ.).

13. Sachkova M.E. Psihologiya srednestatusnogo uchashchegosya: monografiya [Psychology of students with average sociometric status]. *Moscow: Yurajt,* 2022, 202 pp. (In Russ.).

14. Sobkin V.S., Kolomiec Yu. O., Kalashnikova E.A. Causes of conflict between adolescent and teacher, parent, classmates and the social situation of development. *Voprosy psihologii,* 2020. Vol.66, no. 5, pp. 13—25. https://www.elibrary.ru/item.asp?id=44491478

15. Ejdemiller E.G., Yustickis V.V. Psihologiya i psihoterapiya sem'i [Psychology and psychotherapy of family]. Saint-Petersburg: Piter, 2015, 672 pp. (In Russ.).

16. Chow C.M., Hart E., Ellis L., Tan C.C. Interdependence of attachment styles and relationship quality in parent—adolescent dyads. *Journal of Adolescence,* 2017. Vol. 61, pp. 77—86. DOI:10.1016/j.adolescence.2017.09.009

17. Fletcher A.C., Sayler K., Zhang X., Steinberg L. & Belsky J. Parenting style as a moderator of associations between maternal disciplinary strategies and child well—being. *Journal of Family Issues,* 2012. Vol. 29, no. 12, pp. 1724—1744. DOI: 10.1177/0192513X08322933

18. Ladd G. W., Parke R. D. Themes and theories revisited: perspectives on processes in family—peer relationships. *Children,* 2021. Vol. 8, no. 6, pp. 507. DOI:10.3390/children8060507

19. Lisha L., Xiaoli H., Chaoqun L, Liangyuan X., Yanfang L. Linking parent-child relationship to peer relationship based on the parent-peer relationship spillover theory: Evidence from China. *Children and Youth Services Review,* 2020. Vol. 116, pp. 105200. DOI:10.1016/j.childyouth.2020.105200

20. Sánchez—Sandoval Y, Verdugo L. School adjustment and socio—family risk as predictors of adolescents\' peer preference. *Frontiers in Psychology,* 2021. Vol. 12, pp. 645712. P. 1—10. DOI:10.3389/fpsyg.2021.645712

21. Sayler K., Zhang X., Steinberg L., Belsky J. Parenting, Peers and Psychosocial Adjustment: Are the Same-or Different-Children Affected by Each? *Journal of Youth and Adolescence,* 2022, pp. 1—15. DOI:10.1007/s10964-022-01574-9

статусом учащихся и их личными качествами // Материалы IV съезда общества психологов. Тбилиси, 1971. С. 187—188.

11. *Петровский А.В.* Трехфакторная модель значимого другого [Электронный ресурс] // Вопросы психологии. 1991. № 1. С. 7—17. URL: http://www.voppsy.ru/issues/1991/911/911007 (дата обращения: 17.02.2022).

12. *Поскребышева Н.Н., Бабкина А.Ю.* Семейные факторы развития автономии и сепарационных процессов у подростков [Электронный ресурс] // Вестник Московского университета. Серия 14. Психология. 2020. № 3. С. 120—146. URL: https://www.elibrary.ru/item.asp?id=43936774 (дата обращения: 17.02.2022).

13. *Сачкова М.Е.* Психология среднестатусного учащегося: монография [Электронный ресурс]. М.: Юрайт, 2022. 202 с. URL: https://urait.ru/bcode/494555 (дата обращения: 17.02.2022).

14. *Собкин В.С., Коломиец Ю О Калашникова Е.А.* Причины конфликтов подростков с учителями, родителями и одноклассниками: к вопросу о социальной ситуации развития [Электронный ресурс] // Вопросы психологии. 2020. Том 66. № 5. С. 13—25. URL: https://www.elibrary.ru/item.asp?id=44491478 (дата обращения: 17.02.2022).

15. *Эйдемиллер Э.Г., Юстицкис В.В.* Психология и психотерапия семьи [Электронный ресурс]. СПб.: Питер, 2015. 672 с. URL: https://books.google.ru/books?id=zvbDCwAAQBAJ&hl=ru&source=gbs_navlinks_s (дата обращения: 17.02.2022).

16. *Chow C.M., Hart E., Ellis L., Tan C.C.* Interdependence of attachment styles and relationship quality in parent-adolescent dyads // Journal of Adolescence. 2017. Vol. 61. P. 77—86. DOI: 10.1016/j.adolescence.2017.09.009

17. *Fletcher A.C., Sayler K., Zhang X., Steinberg L., Belsky J.* Parenting style as a moderator of associations between maternal disciplinary strategies and child well-being // Journal of Family Issues. 2012. Vol. 29. № 12. P. 1724—1744. DOI: 10.1177/0192513X08322933

18. *Ladd G. W., Parke R. D.* Themes and theories revisited: perspectives on processes in family—peer relationships // Children. 2021. Vol. 8. №. 6. P. 507. DOI: 10.3390/children8060507

19. *Lisha L., Xiaoli H., Chaoqun L, Liangyuan X., Yanfang L.* Linking parent—child relationship to peer relationship based on the parent-peer relationship spillover theory: Evidence from China // Children and Youth Services Review. 2020. Vol. 116. P. 105200. DOI: 10.1016/j.childyouth.2020.105200

20. *Sánchez-Sandoval Y, Verdugo L.* School adjustment and socio-family risk as predictors of adolescents' peer preference // Frontiers in Psychology. 2021. Vol. 12. P. 1—10. DOI: 10.3389/fpsyg.2021.645712

21. *Sayler K., Zhang X., Steinberg L., & Belsky J.* Parenting, Peers and Psychosocial Adjustment: Are the Same-or Different-Children Affected by Each? // Journal of Youth and Adolescence. 2022. P. 1—15. DOI: 10.1007/s10964-022-01574-9

Information about the authors
Valentina I. Ekimova, Doctor in Psychology, Professor, Head of Extreme Psychology Foundation Department, Extreme Psychology Faculty, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: https://orcid.org/0000-0001-6968-5253, e-mail: ekimovavi@mgppu.ru

Alisa N. Vetzel, Master in Psychology, Graduate of Extreme Psychology Faculty, Moscow State University of Psychology & Education Moscow, Russia, ORCID: https://orcid.org/0000-0003-1751-334X, e-mail: vecalis@mail.ru

Marina I. Rozenova, Doctor in Psychology, Professor, Professor of Extreme Psychology Foundation Department, Extreme Psychology Faculty, Moscow State University of Psychology & Education, Moscow, Russia, ORCID: https://orcid.org/0000-0001-6976-5587, e-mail: profi1234@yandex.ru

Информация об авторах

Екимова Валентина Ивановна, доктор психологических наук, профессор, зав. кафедрой научных основ экстремальной психологии факультетта экстремальнаяой психологии, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0001-6968-5253, e-mail: ekimovavi@mgppu.ru

Вецель Алиса Наилевна, магистр, выпускница факультета экстремальной психологии, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: ORCID: https://orcid.org/0000-0003-1751-334X, e-mail: vecalis@mail.ru

Розенова Марина Ивановна, доктор психологических наук, профессор, профессор кафедры научных основ экстремальной психологии факультета экстремальной психологии, Московский государственный психолого-педагогический университет (ФГБОУ ВО МГППУ), г. Москва, Российская Федерация, ORCID: https://orcid.org/0000-0001-6976-5587, e-mail: profi1234@yandex.ru

НЕКРОЛОГ
OBITUARY

Zh.M. Glozman (1940—2022)

The Faculty of Psychology of Moscow State University regrets to announce that on March 4, 2022, after a serious illness, the world-famous scientist, **Glozman Zhanna Markovna**, passed away. She was a student of A.R. Luria, the Honoured Researcher of Moscow University, Leading Researcher of the Laboratory of Neuropsychology at the Faculty of Psychology of Moscow State University named after M.V. Lomonosov, Professor, Doctor of Psychology.

Glozman Zhanna Markovna worked at the Faculty of Psychology of Moscow State University since 1970. The range of her scientific interests was very large: neuropsychology, neurolinguistics, neuropsychology of communication, neuropsychology of childhood and senility, history of neuropsychology, cultural and historical psychology. Her contribution to children's practical neuropsychology is great; she trained several generations of psychologists who worked or studied at the Centre of Neuropsychology named after A.R. Luria.

Zhanna Markovna Glozman was the author and editor of over 400 scientific papers (including 49 books) published in Russian, English, Spanish and Portuguese. She was the initiator and editor-in-chief of the Lurian Journal, which began to be published in English in Yekaterinburg in 2020.

Zhanna Markovna Glozman was an indispensable organizer of international conferences in memory of A.R. Luria. She was the initiator and the President of the International Society for Applied Neuropsychology (ISAN). Even in her old age, her energy has not dried up: for example, in 2020 she was the Chairman or Vice-chairman of three program committees of international conferences on neuropsychology, cultural-historical psychology and cognitive sciences.

Zhanna Markovna Glozman was awarded several medals and badges of honour, including the medal of the Krakow Academy of Rehabilitation.

The name of Zhanna Markovna Glozman, a seeking neuropsychologist, tireless organizer, mentor of practical psychologists, and a good friend, will forever remain in memory of her colleagues, students and friends.

НАУЧНАЯ ЖИЗНЬ
SCIENTIFIC LIFE

RUSSIAN EDUCATIONAL RESEARCH ASSOCIATION,
MOSCOW STATE UNIVERSITY OF PSYCHOLOGY AND EDUCATION,
PSYCHOLOGICAL INSTITUTE OF THE RUSSIAN ACADEMY OF EDUCATION

INFORMATIONAL LETTER

Dear Colleagues,
We invite you to take part in the 2nd International Conference "The Davydov Readings"
which will be held in Moscow on September 12—13, 2022.

In September 2020, Moscow State University of Psychology and Education hosted the 1st International Conference "Scientific School of Vasily Davydov: Traditions and Innovations" that was dedicated to the 90th anniversary of V.V. Davydov's birth. Back then, the participants of this Conference decided to make it a regular event and to meet every 2 years to discuss the main ideas of Davydov's scientific school and their impact on education and child development. The coming Davydov Readings will focus on the relevant issue of the subject of learning activity and its practical implementation in the era of digital education.

The Conference is organized by the Russian Educational Research Association, the Moscow State University of Psychology and Education, and the Psychological Institute of the Russian Academy of Education.

The Readings will take place as four thematic symposia.
Symposium 1. "Learning Activity in Primary School and Digital Environments: How to Promote Agency in Learning Activity" (Moderators: V.V. Rubtsov, V.T. Kudryavtsev, B.D. Elkonin)

Symposium 2. "Developing Agency in Adolescents through Research Project Activity: Opportunities and Limitations of Digital Environments" (Moderators: A.V. Leontovich, A.I. Fadeyev)

Symposium 3. "Games in Digital Environments that Shape Group and Individual Agency in Students through Learning Tasks and Research Projects" (Moderators: Yu.V. Gromyko, P.O. Skobelev)

Symposium 4. "Development of Subject Thinking in Students in the Process of Learning Activity" (Moderators: A.A. Margolis, E.I. Isaev, M.A. Safronova)

The following formats are available within the symposia:
1) Plenary sessions
2) Thematic sections

Possible participation forms:
in-person attendance — as a listener, without publication of theses in the conference proceedings;
in-person attendance — as a contributor, with publication of theses in the conference proceedings;
in-person attendance — as a listener, with publication of theses in the conference proceedings;
in-person attendance — as a contributor, without publication of theses in the conference proceedings.

Terms of participation.

Please register here to participate in the Conference: https://docs.google.com/forms/d/1Lr_kcZDy3NSgg1CxdVrMzTQkABLaOnDaYR_AfxKzyHI/e dit?usp=sharing

If you wish to participate as listener, please send your conference attendance request by September 11, 2022.

There are no registration fees for participants.

Due to the epidemiological situation the Conference will be conducted in a mixed format.

After the Conference, we are planning to publish the proceedings as well as a collection of little-known or unpublished works by V.V. Davydov.

Theses for publication shall be submitted by August 11, 2022.
All participants will receive certificates.

Official website of the Conference: http://davydov-conf.ru
Contact us: davydov2020@mgppu.ru