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Activity-related experiences of students in learning and the quality of motivation

PhD Dissertation Summary

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OVERALL SCOPE OF THE RESEARCH

Relevance of the research. The relevance of this study is associated with the increasing interest of researchers in the role of motivation in educational activities. Numerous studies demonstrate that motivation predicts not only academic achievement (Richardson et al., 2012), but also other important outcomes. For example, students who are more autonomously motivated in their studies (demonstrating an internal locus of causality in their educational activities) are more likely to complete them (Daoust et al., 1988, Vallerand, 1992). On the other hand, experiences in education have become not only a subject of interest for individual researchers but have also been included as a separate volume in the report of the Programme for International Student Assessment (PISA) 2018, which includes 79 participating countries, including Russia (Polivanova K.N., 2020). This overall indicates the growing attention to this subject. However, the connection between the quality of motivation in educational activities and subjective experiences regarding educational activities is practically understudied. Research that addresses the quality of motivation and experiences in education is scarce or mostly focuses on measuring more proximal constructs, such as subjective well-being.

Research problem. The problem of this study is between the theoretical concept of experience as a category in general psychology and personality psychology (L.S. Vygotsky, A.N. Leontiev, F.E. Vasilyuk, etc.) and its status as a target of specific empirical research. In addition, the relationship between activity-related experiences in learning and the quality of motivation remains unclear. More specifically, we are interested in whether activity-related experiences in learning can be considered as a predictor of its success and an indicator of the quality of motivation.

Theoretical background of the research problem.

The issue of motivation encompasses the entirety of psychological structures, processes, and mechanisms that serve to initiate activity and determine its direction and intensity (see Leontiev, 2004). Any specific motivation of an individual's activity can be characterized in terms of its direction (work, relationships etc.), intensity (high or low), and quality (intrinsic or extrinsic). The latter characteristic has recently gained attention in research, particularly in activity theory and self-determination theory, which

emphasize that motivation is characterized by a certain quality rather than just strength or level (Vansteenkiste, Lens, & Deci, 2006). The quality of motivation addresses the question of why we engage in a particular activity. It refers to the extent to which motivation aligns with deep-seated needs and the individual as a whole (Leontiev, 2016b).

According to self-determination theory, all types of activities are accompanied by a subjective sense of why a person engages in them. This sense is referred to as the "perceived locus of causality." Self-determination theory proposes that all types of behavior can be represented along a continuum of autonomy (Ryan, Connell, 1989), ranging from a complete lack of self-determination (external or controlled forms of motivational regulation) to a sense of autonomy (internal or autonomous forms of motivational regulation). The assessment of the perceived locus of causality indicates whether a person believes in the freedom of their own will (Sheldon et al., 2017, p. 1215). Research shows that such beliefs have numerous positive consequences, regardless of whether they are philosophically, scientifically, or pragmatically true (Deci, Ryan, 2001; Ryan, Deci, 2006; Ryan, Deci, 2017).

The question of the quality of an activity itself being a source of satisfaction can be examined from both the perspective of motivation quality and the quality of the experiences accompanying the activity. The concept of "experience" has broad interpretations in philosophy, psychology, and psychotherapy. It ranges from a comprehensive understanding that encompasses the entirety of a subject's conscious experience to a narrower definition approaching the concept of a state. In this study, the concept of experience is limited and operationalized by applying it to specific activities, using the term "activity-related experience."

The construct of activity-related experience, or the experiences accompanying activity, has been introduced in recent years and described in D.A. Leontiev's three-dimensional model of experiences. The model involves three criteria for the optimal performance of an individual's current activity: pleasure (positive emotions accompanying the process of activity), meaning (a sense of connection between the activity and other aspects of the subject's life and other people), and effort (a sense of control over the activity process) (Leontiev, 2015a). Based on this model, a questionnaire

of experiences in activity was developed and validated, which assesses the extent to which a particular activity is accompanied by experiences of pleasure, meaning, effort, and void (lack of pleasure, effort, and meaning) described by M. Csikszentmihalyi as psychic entropy (Csikszentmihalyi, 2011). This questionnaire has been successfully tested across various types of activities (Leontiev et al., 2018; Osin, Leontiev, 2017). It has been shown that experiences differ across different types of activities, partly relate to personality characteristics, motivation quality, and psychological well-being, and the three-dimensional structure of experiences receives compelling evidence of its validity.

Despite both described phenomena—experiences and motivation in activity—being subjects of various independent studies, their integration has not been previously undertaken.

Purpose of the research. The purpose of this study was to study the correlations between the quality of activity-related experiences in learning and the quality of its motivation.

Object of the research: the motivation of activities and the experiences accompanying those activities.

Subject of the research: the interrelationship between the quality of activity motivation and the activity-related experiences.

The following **research hypotheses** were formulated:

1. Within the same activity, the quality of experiences and the quality of motivation will be interconnected. Specifically, for educational activities, we expect to find a positive correlation between autonomous forms of motivation and pleasure and meaning.
2. The quality of motivation in educational activities will be associated with the quality of experiences in those activities but will not be linked to the quality of experiences in other (leisure) activities.
3. Experiences accompanying a specific type of activity will be stable over time.

4. Evaluations of pleasure, meaning, and effort in educational activities will be positively correlated with academic achievement, unlike experiences in other types of activities.

In the exploratory part of the study, we will also attempt to examine whether the quality of activity-related experiences can serve as a basis for identifying subgroups (clusters) within the overall research sample and if these groups differ in terms of motivation quality.

Methodological and theoretical basis of the study is formed by the Self-Determination Theory by E.Deci and R.Ryan, the Flow Theory by M. Csikszentmihalyi and the Activity-Related Experience Model by D.A. Leontiev.

Methods of the research. In order to test the hypotheses, the following methodological tools were used:

1. Universal Perceived Locus of Causality Scale (UPLOC; Sheldon, Osin, Gordeeva, Suchkov, Sychev, 2017) to measure the quality of motivation.
2. Activity-Related Experiences Assessment Inventory (AREA; Leontiev, 2015a) to measure the activity-related experiences.
3. To provide a more detailed characterization of the construct validity of the AREA, the following additional measures were employed: Unidimensional Responsibility Acceptance Scale (Sheldon et al., 2018), the Mental Health Continuum-short form (MSC-SF) (Żemojtel-Piotrowska et al., 2018; Osin, Leontiev, 2020).
4. Additional methods for measuring motivation and experiences were also employed, including: Balanced Measure of Psychological Needs (BMPN; Sheldon, Hilpert, 2012; adapted by E.N. Osin) for assessing satisfaction and frustration of basic psychological needs and Assessment of the Flow Experiences in Activity (Leontiev, 2015b)
5. To process the results of a quantitative series of studies, the following were used: descriptive statistics, correlation analysis (Pearson's coefficient), two-factor analysis of variance with repeated measurements (ANOVA), power analysis (ANOVA: Repeated measures, within factors - Sensitivity; Post hoc: Compute

achieved power), cluster analysis using Ward's method and Z-standardization of variables.

Empirical base of the research. The overall sample of the study consisted of 1,109 participants, of which 93 participants were involved in the study with repeated measurements.

Study 1 had a cross-sectional quasi-experimental design. It involved 367 participants, undergraduate students from psychology faculties of two Moscow universities, aged between 17 and 24 years ($M = 18.35$; $SD = 1.00$). The male participants constituted 16% of the sample. The research procedure involved completing different questionnaires partly in paper-based and partly in online format.

Study 2 was conducted with two separate samples. The first sample comprised 104 respondents, first-year students from one of the Moscow universities, aged between 17 and 28 years ($M = 18.30$; $SD = 1.40$), of which 82% were female. Participants completed an online questionnaire that included socio-demographic information and stimulus materials of psychological questionnaires. The second sample of the study consisted of 93 respondents, also first-year students aged between 17 and 20 years ($M = 18.02$; $SD = 0.61$), of which 55% were female. Participants completed an online form containing all the utilized instruments and responded to the questions of the "Activity-Related Experiences Assessment" scale twice, with a time interval of 10-15 days. The attrition rate to the third stage of the study was 17%, resulting in 77 individuals participating in all three stages.

Study 3 involved 545 participants, 85% were female, aged between 18 and 27 years ($M = 18.62$; $SD = 1.22$). The study was conducted online with students of a first year bachelor program.

Scientific novelty. The novelty of the study is substantiated by the following results: for the first time, the connections between the quality of motivation and activity-related experiences have been examined, both within the framework of a single activity and across different activities. The applied potential of the category "experience in activity" has been demonstrated in relation to educational activities. The research data

has shown that the psychometric status of this category allows it to be classified as a distinct category of variables that cannot be reduced to personality traits or states.

Practical and theoretical significance of the research. The significance of this research from a theoretical standpoint lies in clarifying the status of the "activity-related experiences" category and uncovering the connections between the quality of experiences and the quality of motivation towards activities. By incorporating a three-dimensional model of activity-related experiences into the explanation of underlying motivation, it will contribute to a more refined understanding of the quality of processes occurring within specific activities.

The practical significance of this study lies in the opportunity to enhance existing educational practices by considering the specificity of the experiences that emerge during educational activities.

Principles for the defense:

1. The quality of motivation in an activity and the quality of accompanying experiential states are related within a specific activity, but not across different activities.
2. Significant correlations exist between motivation in educational activities and the accompanying experiences. Specifically, autonomous forms of motivation are positively associated with experiences of pleasure and meaning, and negatively associated with experiences of void. Conversely, controlled forms of motivation exhibit opposite patterns. These correlations are stronger when the corresponding forms of motivation align closer to the extreme values of the autonomy-controlled continuum. The experience of effort is most strongly linked to forms of motivation occupying a moderate position on this continuum, while the weakest link is observed with the most and least autonomous forms of motivation.
3. Activity-related experiences show significant intra-individual variation across different types of activity (hence, cannot be considered as personality traits), but insignificant variation over time within one activity (hence, cannot be considered

as states). It may be useful to consider them as a special category of contextually dependent psychological variables (like the quality of motivation).

Approbation of the research. The theoretical and empirical findings of the study were presented at scientific and scientific-practical conferences, including the Russian Forum of Psychologists (Russia, Kazan, 2017) and the Current Issues and Perspectives in the Development of Modern Psychology (Russia, Saransk, 2018). The results were also showcased during a session of the International Laboratory of Positive Psychology of Personality and Motivation and research seminars at the Doctoral School of Psychology (National Research University Higher School of Economics)

The structure of the PhD thesis. The overall logic of the study determined the structure and scope of the dissertation (128 pages). The dissertation comprises an introduction, three chapters, a conclusion, a reference list with 200 citations (134 of which are in foreign languages), and two appendices. The research findings are presented in 10 tables and 4 figures.

MAJOR CONTENT OF THE RESEARCH

The **introduction** provides a rationale for the relevance and problem of the dissertation research, defines the aim, object, subject, hypotheses, and research tasks, outlines the methodological and theoretical foundations of the work, describes the scientific novelty, theoretical and practical significance of the research, and presents the propositions being defended.

The **first chapter** of the dissertation is dedicated to the analysis of foreign and domestic works and research on the quality of motivation. Specifically, it includes a review of Self-Determination Theory by Deci and Ryan, studies on the quality of motivation in different types of activities, and also in educational settings.

Paragraph 1.1 provides a brief overview of the theories of motivation before Deci's and Ryan's self-determination theory which is central of the first chapter.

In **Paragraph 1.2** the main principles of the self-determination theory, the historical prerequisites for separation internal and external motivation are considered. Attention is paid to the problem of the quality of activity motivation using the self-determination theory and other approaches.

The most elaborate and experimentally supported theoretical model of qualitative differences in motivation is presented in the Self-Determination Theory by Deci and Ryan. It demonstrates the dynamics of "rotation" (integration/internalization) of motives initially rooted in external demands, irrelevant to the individual's needs. The key distinction in the theory lies between intrinsic and extrinsic motivation (Deci, 1980).

Intrinsically motivated activities are interesting in and of themselves, serving as a reward and a source of positive emotions. Externally motivated activities are performed for the sake of something else (rewards, avoidance of punishment or judgment, contribution to a collective cause or the realization of values, assisting a significant other, etc.).

Further analysis revealed that extrinsic motivation differs in terms of types of motivational regulation, ranging from less autonomous to more autonomous forms (Ryan, Connell, 1989; Ryan, Deci, 2000). The following forms of motivational regulation within extrinsic motivation are distinguished: external regulation, introjected regulation,

identified regulation, and integrated regulation. Their specific characteristics are explained in the dissertation.

An explanation is provided on how one of the six sub-theories of Self-Determination Theory—the Basic Psychological Needs Theory—is related to the quality of motivation. The Basic Psychological Needs Theory posits that 1) autonomy, competence, and relatedness are universal psychological needs, and 2) their satisfaction ultimately leads to intrinsic motivation for activity or serves as a foundation (prerequisite) for such motivation (Deci & Ryan, 2008). It is known that frustration of basic needs leads to negative consequences, including reduced well-being and motivation, and a sense of alienation from the activity (Ryan & Deci, 2000).

Since the Basic Psychological Needs Theory assigns crucial importance to the environment—people naturally exhibit a tendency for growth and well-being in conditions that facilitate need satisfaction—another well-known and widely cited concept that attempts to address the link between the environment and satisfaction is mentioned. This concept is the theory of motivational dispositions (McClelland, 1985; Schultheiss, 2008; see Schuler, Brandstatter, Sheldon, 2013). At the end of Section 1.1, a comparative analysis is conducted between these theories.

In **paragraph 1.3**, various studies expose how favorable environmental conditions within a company are related to the quality of motivation and how the quality of motivation manifests in the context of romantic relationships.

One way in which companies facilitate employee development is by creating challenges in the work environment through gradual job complexity (Shalley, Gilson, Blum, 2009). Shalley, Gilson, and Blum, drawing on the concept of "growth need strength," which represents an individual's aspirations for development and improvement, found that task complexity moderates the relationship between growth aspirations and creative work performance. However, it is interesting to note that the presence of a supportive environment contributes more significantly than task complexity. In a study conducted by Joo and Lim, it was found that a well-established organizational learning culture and task complexity positively influence employees' intrinsic motivation and organizational commitment (Joo, Lim, 2009). A quality learning culture fosters open

exchange of ideas, encourages the acquisition of new knowledge, and facilitates creative problem-solving.

It is worth to notice that intrinsic motivation, characterized by a focus on the process of activity itself, is not only considered within the framework of self-determination theory. Another extensively studied phenomenon that serves as a variant of intrinsic motivation is passion (Vallerand et al., 2003, p. 756). The distinction between passion and the phenomenon of intrinsic motivation, as viewed within the framework of self-determination theory, lies in the fact that "an activity that is the object of passion is not just pleasant and interesting...it is perceived as meaningful and consistent with one's self-conception and is a constant and inseparable part of one's life" (Zolotareva et al., 2022).

Questions of motivation quality prominently arise in relation to the concept of "relatedness" and in the field of relationship motivation research. It has been found that overall relationship satisfaction positively correlates with more autonomous forms of motivational regulation and shows an inverse relationship with less autonomous forms (Blais et al., 1990). A series of studies also present positive outcomes of autonomous motivation in the realm of relationships (Knee, Lonsbary, Canevello, & Patrick, 2005; Knee, 2015).

In **paragraph 1.4**, attention is devoted to the results of research on motivation in educational activities over the past 30 years.

Studies in the field of motivation in educational activities have demonstrated that more autonomous forms of the motivational continuum (Ryan, Connell, 1989) - when individuals engage in activities due to their interest or their alignment with internal values and goals - positively influence the level of engagement in educational activities (Connell, Wellborn, 1990), academic achievement (Grolnick, Ryan, 1987), and psychological well-being (Sheldon, Kasser, 1995). Students who exhibit a higher level of autonomous motivation in homework completion are less likely to drop out of school compared to those with less autonomous motivation (Vallerand, Bissonnette, 1992).

It has been found that competence, autonomy, and relatedness, when supported in the educational environment, lead to the integration and internalization of extrinsic

motivation. Studies have confirmed the assumption that satisfying basic psychological needs enhances intrinsic motivation (Deci & Moller, 2005; Deci & Ryan, 1985). In turn, intrinsic motivation is associated with positive experiences and satisfaction (Block, Sredl, 2006; Deci et al., 1991; Vallerand et al., 1992). Research also demonstrates that frustration of basic psychological needs is associated with amotivation, which, in turn, leads to decreased academic performance, worsened psychological well-being, and student attrition (Block, Sredl, 2006; Deci et al., 1991).

It has been observed that negative feedback decreases the internalization of behavioral regulation compared to situations without feedback. Additionally, positive feedback enhances intrinsic motivation compared to the absence of feedback (Reeve, 2002).

In the context of educational activities, the satisfaction of basic psychological needs (particularly autonomy and competence) leads to higher levels of intrinsic motivation, which, in turn, results in higher academic achievement, as demonstrated in a study involving over 11,000 American students (Yu, Levesque-Bristol, 2020).

The influence of the need for relatedness on intrinsic motivation has been described in a series of studies (Reis et al., 2000; Ryan, LaGuardia, 2000). It has been found that students exhibit higher levels of intrinsic motivation when they perceive their teachers as caring and warm in their interactions.

Russian studies generally confirm the global findings. For example, in a study conducted by T.O. Gordeeva and colleagues in 2013, whose results were largely confirmed by a 2014 study, university students' motivation was predictably dependent on the satisfaction of basic needs. However, a specificity was found: identified and external motivation were associated not only with autonomy satisfaction and frustration but also with other basic needs, such as competence and relatedness (Gordeeva, Sichev, Osin, 2013; 2014).

Research on Russian pupils has identified several types of motivational profiles, with the most productive one in terms of academic achievement and well-being being characterized by a predominance of intrinsic motivation over extrinsic motivation (Gordeeva, 2016). Additionally, it has been shown that gifted students (those achieving

high scores in the Unified State Exam and winning Olympiads) also exhibit a predominance of intrinsic motivation over extrinsic motivation (Gordeeva, Leontiev, Osin, 2011).

In the **second chapter**, the phenomenon of intrinsic motivation is examined through the lens of subjective experiences accompanying activities. An analysis of the concept of "experience" is provided, along with a description of D.A. Leontiev's three-dimensional model of experiences in activities.

In **paragraph 2.1**, the theory of autotelic experiences by M. Csikszentmihalyi is presented, highlighting the connection between flow experiences and the quality of motivation. The author of the theory focused not on the entire continuum of motivation but specifically on its most optimal form - engagement in activities known as flow experiences (Csikszentmihalyi, 2011).

Three factors that contribute to the formation of optimal experiences are described (Csikszentmihalyi, 2011): the balance between challenges and skills, clear goals that individuals strive for in a specific activity, and unambiguous feedback that informs individuals of their progress toward set goals or provides guidance on how to adjust the process.

A series of studies is mentioned, which provide a more in-depth analysis of the "challenge-skills balance" parameter. The most significant finding from this research is that if an activity is perceived as "self-determined" (meaning individuals themselves determine what and when they will do), the link between optimal experiences and the balance between challenges and skills is significantly enhanced. Whether the activity is leisure, work-related, or educational, and whether it is performed once or throughout the day, becomes less important (Fong, Zaleski, Leach, 2015).

Paragraph 2.2 is dedicated to discussing different interpretations of the concept of "experience" (переживание). In its most general sense, experience in psychology is defined as the "immediate internal subjective givenness of a psychological phenomenon" (Vasilyuk, 1984, p. 17). In this sense, it is equivalent to the concept of "experience" in English. Both Lev Vygotsky and John Dewey defined experience in this manner.

The development of conceptions of experience in psychology was influenced by philosophy. Edmund Husserl defined consciousness as the experience of the lifeworld, its pre-objective apprehension. Furthermore, "the concept of 'experience,' alongside the concept of 'life,' becomes a cornerstone in the sciences of the spirit and in Dilthey's 'philosophy of life'" (Demyanov, 2012, p. 49). Dilthey's hermeneutic psychology defined understanding as a "holistic psychospiritual experience" and a humanistic mode of cognition (Vakhromov, Guseltseva, Marcinkovskaya, 2004, p. 45).

In Russian philosophy, the special role of Vladimir Solovyov, Nikolai Lossky, and Sergey Frank in shaping conceptions of experience is noted by historians. Subsequently, Georgy Shpet arrived at the idea of experience as a mechanism for assimilating knowledge, internalizing objective information and object-related cognition: "Knowledge that is consciously recognized and rationally evaluated by a person can become part of their consciousness, but only the experience of this knowledge transforms it into a motive" (Marcinkovskaya, 2004, p. 65).

In Anglophone literature, the problem of experience is first extensively addressed within the framework of pragmatism, founded by William James (Guseltseva, 2004). According to James, experiences, unlike emotions and sensations, are the most complex, prolonged, and autobiographical events in which personal transformation and associated discoveries are possible. Examples of experiences include religious experiences (revelation), personal transformation (crisis), and catharsis (purification) (James, 2011).

In Russian psychology, the study of the concept of experience is traditionally associated with the names of Lev Vygotsky, Alexei Leontiev, Sergei Rubinstein, and Alexander Luria. The current dissertation provides interpretations of this concept by all four authors.

In the 1980s, Feodosiy Vasilyuk synthesized the achievements of the activity approach in understanding experience and offered his own perspective in his dissertation and subsequent monograph (Vasilyuk, 1984). Vasilyuk understands experience "not in the usual sense for scientific psychology as an immediate, often emotional, form of givenness of contents to the subject's consciousness, but as a designation of a special inner activity, internal work, by means of which a person manages to endure certain (usually

difficult) life events and situations, restore lost mental equilibrium, in short, cope with a critical situation" (Vasilyuk, 1984, p. 12; italics by F.E. Vasilyuk).

Experience can be viewed from different angles (Leontiev, 2023):

1. View of L.S. Vygotsky. Experience as a relationship that arises between the subject and the environment. It shows what the environment is for the individual at the moment. In experience, the environment is given, in its relation to me, how I experience it, and the characteristics of my personality are given (Vygotsky, 1984).

2. View of A.N. Leontyev. Experience is a product of activity. The way a given object appears in experience is determined by activity. Without activity there will be no experience.

3. View of F.E. Vasilyuk. Experience is in no way connected with the environment in a global sense, as says Vygotsky. Experience is an activity. This is what sets F.E. Vasilyuk apart from A.N. Leontyev. Experience is a form of meaning-making activity. Through experiencing, the subject emerges from the critical situation in which he was caught.

4. View of M. Csikszentmihalyi. Among many experiences, there is an optimal experience - the experience of flow. It has a specific set of distinctive characteristics. Not every activity causes flow. If the characteristics of the activity coincide and the subject has certain conditions, it is possible to induce the experience of flow. It arises only under the condition of clear goals of the subject; opportunities to receive feedback from activities to track progress towards goals; balance between the subject's current skills and the complexity of the task being performed (if too easy - boring, too difficult - anxious, balance - flow).

5. The view of D.A. Leontiev, complementing the flow theory of M. Csikszentmihalyi. Not every flow experience, as it turns out, can be called an optimal experience. D.A. Leontiev identifies criteria for optimality, on the one hand, breaking the experience of flow into simpler components, and on the other, adding a new component that answers the question of what experience can be called optimal. Activity-related activities are characterized by internal structure. It is described by a combinatorial model of activity-related experiences, which is based on experiences of pleasure, meaning, and

effort. In the absence of experiences of all three components, the experience of void takes place (according to M. Csikszentmihalyi - psychic entropy).

“Experiences are special psychological variables, defined as actual assessments of the current state of interaction with the environment (or being-in-the-world, in Heidegger’s terms), deeply rooted in the structures of personality. They include both the feeling of the world influencing the subject, and the self-awareness of the subject acting in the world” (Leontiev D.A., in press).

Paragraph 2.3 provides an analysis of scientific research on the topic of experiences in educational activities.

Sherenoff and Csikszentmihalyi, like many other researchers worldwide, conclude that students in public schools generally perceive their educational activities negatively. The educational process is often characterized by disengagement, boredom, apathy, and even frustration or anger (see, for example, Cothran & Ennis, 2000; Gilman & Anderman, 2006; Goodlad, 1984; Steinberg, Brown, & Dornbusch, 1996). It has also been hypothesized that the negative affect of learners is counterproductive to creativity, associated with long-term negative attitudes towards education, and a decline in overall achievement (Osborne, Simon, & Collins, 2003; Quirk, 1994). The rapid development of technology has made online education more accessible, but questions arise regarding its effectiveness and the level of satisfaction with the learning (and teaching) process (Eom & Arbaugh, 2011). Sherenoff and Csikszentmihalyi (2008) synthesized the research findings on this topic, and their review revealed that students are most engaged in the learning process when experiences of concentration, enjoyment, and interest are at a high level. Such experiences reflect high competence and intrinsic motivation, where the student's skills match the task demands, and their attention is sustained (Sherenoff, 2001; Sherenoff et al., 2003; Sherenoff & Hoogstra, 2001).

Studying the factors that help students experience flow, Schweinle, Turner, and Meyer examined the relationship between motivation and experiences in elementary school mathematics lessons, as well as the connection between student motivation and teachers' instructional methods (Schweinle, Turner, & Meyer, 2006). The results demonstrated that self-efficacy, or participants' confidence in their ability to perform

mathematical tasks, was closely related to positive social affect (engagement or participation in the social context of the classroom) and personal affect (individual affect states such as "excited," "proud," "happy," "joyful"). Furthermore, it was found that more challenging tasks posed a threat to students' self-efficacy and diminished their positive affect. The importance/value of the tasks proved to be more significant for motivation than task difficulty: when students highly valued the instructional material, their tolerance for difficulties was higher, along with their motivation to complete the task.

Joo, Oh, and Kim investigated the factors influencing flow and academic achievement in online courses using a sample of South Korean students (Joo, Oh, & Kim, 2015). The results revealed that (a) self-efficacy and instructional design directly influenced flow, (b) course self-evaluation, self-efficacy within the course, and flow were significant predictors of academic achievement, and (c) flow mediated the relationship between instructional design and academic achievement, as well as between self-efficacy and academic achievement (Joo, Oh, & Kim, 2015).

In **paragraph 2.4**, the three-dimensional model of experiences in activity by D.A. Leontiev is described.

An important step in the development of flow theory was the inclusion of the criterion of meaning and the description of another higher complex form of experience called vital engagement (Nakamura & Csikszentmihalyi, 2003). The meaning of activity is a category that allows for the integration of issues related to experience and motivation, including within the framework of the activity approach (Leontiev, 2016a).

The next step in the development of differentiated flow in relation to experiences based on flow theory was the three-dimensional model of experiences in activity (Leontiev, 2015a; 2016b; Osin & Leontiev, 2017).

The model identifies three elementary components (see Figure 2 in the dissertation) that combine to form more complex experiences and simultaneously serve as complementary criteria of optimality: the experience of pleasure, effort, and meaning.

The experience of pleasure indicates the predominance of positive emotional feedback. The experience of effort reflects the controllability and effectiveness of the

activity, while the experience of meaning is about being engaged in the meaningful contexts of one's life, others, and society.

The combination of all three components forms vital engagement, which represents genuinely optimal experience. The absence of all three components signifies a sense of void, which M. Csikszentmihalyi describes as psychological entropy.

Chapter 3 presents the programs of three studies, describing the characteristics of the methodological apparatus and the study samples. Chapter 3 contains the description and discussion of the research results.

In **paragraph 3.1**, arguments are presented in favor of "activity-related experience" as a distinct psychological variable that differentiates it from states and personality traits. Based on this, one of the tasks of this study is to clarify the psychometric status of the construct of activity-related experience.

Experience turns out to be a separate psychodiagnostic target, different from both a personality trait (disposition) and a state. Unlike a personality trait (disposition), experience should be less stable and depend on the type of activity. For example, the quality of learning experiences at the moment should be closely correlated with the same in two weeks, but not necessarily after a year. Moreover, when changing activities, the connection should be minimal, which distinguishes the assessment of an experience from the assessment of a trait. An experience, unlike a state, is more stable. The state may change over the course of a few minutes, but the assessment of the experiences discussed in this work should reflect a lasting attitude towards the activity. Activity-related experiences refer to experiences that characterize a particular activity. In this activity, they are consistently reproduced at different points in time and should not show a strong scatter, but expectedly should differ from each other in different types of activity. In other words, if we measure students' experiences in educational activities at different times (for example, every 3 months), then most likely the picture of experiences will be preserved. However, if we compare their experiences in school and experiences in leisure, then the experiences will differ from each other, but within each of these activities, as a whole, they will be rather the same.

Activity-related experiences are a special target of psychological diagnostics, a special type of psychological variables that reflect not only the characteristics of the individual, but also the characteristics of his activity. Table 1 shows the essential characteristics that distinguish activity-related experiences as a variable from personality traits and from psychological states.

Table 1. Activity-related experiences as a specific variable

	Variation between individuals	Variation between activities	Variation between time
Activity-related experiences	+	+	-
Personality traits	+	-	-
Psychological states	+	+	+

Paragraph 3.2 discusses the selection of tools for diagnosing the perceived locus of causality (the reason why a person engages in specific activities) and its advantages.

In **paragraph 3.3**, the hypotheses of Study 1 are presented, along with the sample description, research procedure, and research methods. The study involved 367 participants, who were students from the psychology faculties of two Moscow universities, aged 17 to 24 years ($M = 18.35$; $SD = 1.00$). The proportion of male participants was 16%.

The following **hypotheses** are proposed:

1. Within the same activity, the quality of activity-related experiences and the quality of motivation in the activity will be interconnected. More specifically, for learning activity, we expect to find a positive relationship between autonomous forms of motivation and pleasure and meaning.
2. The quality of motivation of learning activity will not be related to the quality of experiences in other activities (study and leisure).

Table 2 presents the empirical values of Pearson's linear correlation coefficients in academic activities between the scales of the Activity-Related Experiences Assessment Scale (AREA) and UPLOC.

Table 2. Pearson correlations between UPLOC in academic activities and AREA in academic activities (N=367)

Variable	Amotivati on	Externa l regulati on	Introjected (negative) regulation	Introjected (positive) regulation	Identifie d regulati on	Intrinsi c motivati on
AREA – pleasure (study)	-.40**	-.18**	-.08	.26**	.50**	.69**
AREA – meaning (study)	-.53**	-.20**	-.12*	.28**	.57**	.51**
AREA – effort (study)	.01	.10*	.21**	.20**	.047	-.04
AREA – void (study)	.47**	.30**	.18**	-.14**	-.51**	-.54**

Note. * $p < .05$, ** $p < .01$.

There are significant associations between motivation in academic activities and the accompanying experiences, and these associations reveal distinct patterns when moving along the autonomy continuum of motivation from left to right (the least autonomous forms of motivation are located on the left columns of the table, while the most autonomous forms are on the right).

Table 3 presents the correlation values between the quality of motivation in academic activities and experiences in another domain, leisure activities.

Table 3. Pearson correlations between UPLOC in academic activities and AREA in leisure (N=367)

Variable	Amotivatio n	Externa l regulati on	Introjected (negative) regulation	Introjected (positive) regulation	Identifie d regulati on	Intrinsi c motivati on
AREA – pleasure (leisure)	-.08	-.10*	-.17**	-.02	.09	.04
AREA – meaning (leisure)	-.06	-.07	-.18**	-.05	.07	.05
AREA – effort (leisure)	.09	.03	.05	.01	-.04	-.02
AREA – void (leisure)	.17**	.26**	.24**	.05	-.10*	-.07

Note. * $p < .05$, ** $p < .01$.

As expected, there were few significant associations between experiences and motivation parameters related to different activities. The only exceptions were positive associations between non-autonomous forms of motivation in academic activities and the experience of emptiness in leisure activities, and negative associations between introjected negative regulation of academic activities (avoidance of negative emotions) and the pleasure and meaning accompanying leisure activities. This confirms the hypotheses for the most part.

In **paragraph 3.4** hypotheses for Study 2 are presented, along with the sample description, research procedure, and research methods.

The following **hypotheses** are proposed:

1. The experiences that accompany a particular type of activity will be stable over time.
2. Aggregate assessments of experiences of pleasure, meaning and effort in educational activities will be positively related to academic achievement, while experiences in other types of activities will be independent of this parameter.

In Study 1, consistent differences in experiences accompanying two types of activities, academic and leisure, were identified, but their stability over time within the

same activity was not tested. Therefore, the task was set to compare experiences in three types of activities (academic, leisure, and the journey to studying) at three time points spaced 10-15 days apart.

The first sample consisted of 104 respondents, first-year students from a Moscow university, aged 17 to 28 years ($M=18.30$; $SD=1.40$), of which 82% were female.

For the first sample, at the end of the academic year, the overall academic performance was recorded for each respondent, expressed as the average grade point value across all courses taken during the academic year (GPA; Grade Point Average).

Academic achievement (GPA) and experiences in activities were significantly and positively associated only for the experiences of pleasure and meaning during the commute to school. The correlation coefficients between experiences in activities and academic motivation were predictable, demonstrating a continuum (transition from negative to positive associations, and vice versa) for almost all types of activities and experiences.

The results are presented in Table 4.

Table 4. Correlation of activity-related experiences with academic achievement and academic motivation (Pearson's r).

Activity-related experiences	GPA	Amotivation	External regulation	Introjected (negative) regulation	Introjected (positive) regulation	Identified regulation	Intrinsic motivation
AREA – pleasure (study)	.10	-.50**	-.27**	-.20*	.20*	.56**	.66**
AREA – meaning (study)	.04	-.55**	-.29**	-.05	.40**	.65**	.54**
AREA – effort (study)	-.11	-.02	.18	.20*	.21*	.19	-.02
AREA – void (study)	.08	.58**	.30**	.15	-.30**	-.54**	-.56**
AREA – pleasure (leisure)	-.15	-.07	.02	.06	.17	.20*	.10
AREA – meaning (leisure)	.004	-.09	-.01	-.02	.28**	.22*	.15

Activity-related experiences	GPA	Amotivation	External regulation	Introjected (negative) regulation	Introjected (positive) regulation	Identified regulation	Intrinsic motivation
AREA – effort (leisure)	.01	–.02	–.01	.01	.08	.09	.02
AREA – void (leisure)	.18	.24*	.04	.04	–.18	–.24*	–.18
AREA – pleasure (the journey to studying)	.24*	–0.18	–.05	.08	.19	.24*	.19*
AREA – meaning (the journey to studying)	.23*	–.44**	–.20*	.01	.21*	.47**	.26**
AREA – effort (the journey to studying)	–.21	.28**	.14	.01	–.13	–.16	–.11
AREA – void (the journey to studying)	–.13	.29**	.13	–.03	–.19*	–.20*	–.23*

Note: * - correlation is significant at the 0.05 level (two-tailed); ** - correlation is significant at the 0.01 level (two-tailed); GPA (Grade Point Average) - average grade point for academic achievement during the academic year.

The measure of academic achievement was better predicted by the experiences that occurred on the way to studyings rather than those experienced during studying. This seemingly paradoxical result may have at least one possible explanation: the journey to studying during the first year is likely occupied with preparations for classes. These preparations and the associated experiences of meaningfulness and enjoyment could indeed better predict academic outcomes for the year compared to the experiences that arise during the actual learning process, which are not yet linked to the outcome itself.

The second sample of the study consisted of 93 participants, also first-year students aged 17 to 20 years ($M=18.02$; $SD=0.61$), of which 55% were female.

To test the hypothesis regarding the influence of time and type of activity on experiences within the activity, a two-factor repeated measures analysis of variance was conducted (see Table 5).

Table 5. Influence of time and type of activity on experiences within the activity
(Two-factor repeated measures analysis of variance)

Experiences	Independent variables	Df	F	p
Pleasure	Time	2; 150	1.12	.33
	Type of activity	2; 150	345.21	< .001
	Time * Type of activity	4; 300	1.16	.33
Meaning	Time	2; 150	1.30	.28
	Type of activity	2; 150	8.42	< .001
	Time * Type of activity	4; 300	.16	.96
Effort	Time	2; 150	3.17	.05
	Type of activity	2; 150	28.15	< .001
	Time * Type of activity	4; 300	.83	.51
Void	Time	2; 150	2.42	.09
	Type of activity	2; 150	167.49	< .001
	Time * Type of activity	4; 300	1.08	.37

The obtained results demonstrate the independence of activity-related experiences from time but not from the type of activity, which confirms one of the hypotheses of the dissertation. A small effect of time on the measure of effort was observed. The interaction effects of the independent variables were non-significant for all types of experiences.

To clarify the construct and measure the validity of the instrument for activity-related experiences, the correlations between the parameters of the "Activity-Related Experiences Assessment" scale and other personality variables were assessed. A unidimensional measure of responsibility acceptance (Sheldon et al., 2018), consisting of 8 items (e.g., "It is important for me to fulfill the promises I make"), as well as the short version of the Mental Health Continuum Scale (MHCS-SF) (Żemojtel-Piotrowska et al., 2018; Osin, Leontiev, 2020), were utilized. The averaged data from all three measurements of the "Activity-Related Experiences Assessment" scale were used for the calculations.

The results are presented in Table 6.

Table 6. Correlation between activity-related experiences and other personality variables (Pearson's r)

Activity-related experiences	MHC-SF	Responsibility	UPLOC — Autonomous	UPLOC — Controlled
Pleasure (study)	.39**	.39**	.68**	-.21*
Meaning (study)	.30**	.10	.49**	-.29**
Effort (study)	-.05	.08	-.10	.13
Void (study)	-.13	-.24*	-.58**	.18
Pleasure (leisure)	.17	.20*	.01	-.08
Meaning (leisure)	.21*	.31**	.12	-.33**
Effort (leisure)	.29**	.16	.23*	.06
Void (leisure)	-.06	-.09	-.06	.19
Pleasure (the journey to studying)	.08	.18	.24*	-.05
Meaning (the journey to studying)	.21*	-.03	.34**	-.14
Effort (the journey to studying)	-.08	-.01	.04	.21*
Void (the journey to studying)	-.10	-.30**	-.38**	.11

Note: * - correlation significant at the 0.05 level (two-tailed); ** - correlation significant at the 0.01 level (two-tailed); MHC-SF (Mental Health Continuum - Short Form) - Mental Health Continuum Scale; UPLOC Autonomous - index of autonomous motivation from the Universal Perceived Locus of Causality Scale; UPLOC Controlled - index of controlled motivation from the Universal Perceived Locus of Causality Scale.

The obtained results demonstrate the expected moderate correlations between the "Experience in Activity Assessment" methodology and measures of motivation and responsibility. However, the correlations with the parameter of psychological health (MHC-SF) were unexpected but explainable: in academic activities, psychological health

is positively associated with enjoyment and meaning, in leisure activities - with meaning and effort, and on the way to the university - only with meaning.

The "Activity-Related Experience Assessment" scale demonstrated acceptable reliability indicators, and the data on the instrument's relationships with academic motivation parameters support its construct validity.

Paragraph 3.5 presents the exploratory part of the study, which examines whether the quality of experience in activity can serve as a basis for identifying subgroups (clusters) within the overall study sample, and whether these groups differ in terms of motivation quality.

A cluster analysis of the quality of experience and motivation in activity was performed in Study 3, describing the sample and the applied methods.

The results of the cluster analysis revealed three groups of respondents based on the quality of experience in activity.

The first cluster (N = 198) is characterized by a process orientation, the highest inclination towards experiencing pleasure and meaning in studies, moderate effort, a tendency towards flow experiences, high autonomous motivation in studies, and low scores on the experience of void. This cluster is distinguished by a high degree of satisfaction with basic needs.

The second cluster (N = 111) is characterized by high effort in studies and reduced enjoyment. Respondents in this group are less inclined to experience flow and demonstrate high scores on the experience of void in studies. The satisfaction with basic needs is average, as well as autonomous motivation towards studies.

The third cluster (N = 123) exhibits significantly lower scores on enjoyment, meaning, and effort in studies and maximal scores on void. Individuals in this group demonstrate controlled motivation towards studies and reduced satisfaction with basic needs. They are less inclined towards flow experiences compared to the other clusters.

Paragraph 3.6 contains a general discussion of the results from all three studies.

The conclusion describes the findings and overall summary, limitations, and prospects of the conducted dissertation research.

GENERAL CONCLUSIONS OF THE RESULTS OF THE STUDY

1. The quality of activity motivation and the quality of accompanying activity experiences are related to each other within the same activity but not across different activities. There were practically no significant correlations found between experiences and motivation parameters related to different activities. The only exceptions were positive correlations between non-autonomous forms of motivation in academic activities and the experience of void in leisure activities, and negative correlations between introjected negative regulation of academic activities (avoidance of negative emotions) and the enjoyment and meaning accompanying leisure activities. This suggests that the hypotheses were mostly confirmed.

2. Significant correlations exist between motivation in academic activities and the accompanying experiences. It was found that autonomous forms of motivation are positively associated with experiences of pleasure and meaning and negatively associated with the experience of void, while controlled forms of motivation show the opposite pattern. These associations are stronger when the corresponding forms of motivation are closer to the extreme values of the autonomy-control continuum. The experience of effort is most strongly related to motivation forms that occupy a middle position on this continuum, and weakest with the most and least autonomous forms of motivation.

3. Activity-related experiences show significant intra-individual variation across different types of activity (hence, cannot be considered as personality traits), but insignificant variation over time within one activity (hence, cannot be considered as states). It may be useful to consider them as a special category of contextually dependent psychological variables (like the quality of motivation). The hypothesis was partly confirmed. Study 2, which included three measurements of activity experiences with a 10-15 day interval, demonstrated that activity-related experiences vary depending on the testing time but consistently relate to the specific activity. Activity-related experiences probably represent a special type of psychological variables that can be classified as characteristic adaptations (McAdams and Pals, 2006). They occupy a level lower than traits but higher than states. Characteristic adaptations represent more specific motivational, social-cognitive variables that are contextualized in a situation over

time. Characteristic adaptations reveal human personality in more details. Personality traits, in turn, are more stable over time and explain general patterns of behavior, thinking, feeling in different situations and over time, that is, how a person usually behaves, feels and thinks. While an instantaneous combination of thoughts, feelings, and behavior reflect a person's state in a specific situation at a certain time (McAdams, Pals, 2006). Unlike traits, states change over time depending on the situation a person faces (Schmitt and Blum, 2020).

4. The "Activity-Related Experience Assessment" scale demonstrated acceptable reliability indicators, and the data on the instrument's relationships with academic motivation parameters support its construct validity. The criterion validity of the experience assessment instrument, which was ensured by the data on the intensity of experiences' correlations with academic achievement, requires further clarification in subsequent studies. **The overall academic achievement score for the academic year was not associated with experiences in academic activities as hypothesized but was associated with experiences on the way to the university.**

The dissertation was carried out at the International Laboratory of Positive Psychology of Personality and Motivation at the National Research University "Higher School of Economics."

List of publications:

1. Klein K.G., Leontiev D.A., Kostenko V.Yu., Osin E.N., Taranenko O.A., Kosheleva N.V. Experiences in Different Activities: Temporal Dynamics and Construct Validity // Psychological Science and Education. 2019. Vol. 24. No. 5. P. 47-57 (in Russian).

2. Klein K.G., Kostenko V.Yu. Self-Determination in Romantic Relationships: Findings from the Russian adaptation of the couple motivation questionnaire // Psychological Studies: Electronic Scientific Journal. 2021. Vol. 14. No. 78. Article 5 (in Russian).

3. Klein K.G. Perceived Locus of Causality: Theoretical Significance and the Problem of Measurement // Journal of Modern Foreign Psychology. 2021. Vol. 10. No. 1. P. 125-131 (in Russian).

Other publications:

1. Leontiev D.A., Klein K.G. The Quality of Motivation and the Quality of Experiences as Characteristics of Learning Activity // Moscow University Psychology Bulletin. Series 14: Psychology. 2018. No. 4. P. 106-119 (in Russian).

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