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Russian Students' Secular Conceptions of Life Calling: A Qualitative Analysis

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Background. During the last decade, life calling has become an area of dynamically developing research in psychology, management, and counseling. However, it has not been empirically investigated in Russia, despite Russia's rich intellectual and spiritual tradition, and abundant research on related constructs, such as personal meaning.

Objective. The aim of the present study is an initial qualitative exploration of the concept of calling in Russian culture.

Design. We employed qualitative document analysis to examine open-ended responses from 104 college students regarding their definition of calling, and the actions they undertook to discern and implement that calling.

Results. We found that the students saw a calling as something more than a mere job; were intrinsically motivated to find and dedicate themselves to it; associated a calling with the use of their abilities; and at the same time expected it to make them more energized and successful without considerable effort. While some participants felt called to a specific domain, the majority indicated abstract other or self-oriented callings. Regarding the implementation of their calling, the participants fell into two groups: those who did something specific, such as study and practice, and those who did something vague, such as "everything" or "nothing".

Conclusion. These results are largely in line with similar findings in other cultures. The results can be used in career guidance in educational institutions, as well as in private counseling. Specific recommendations for practice, as well as directions for future research, are explored.

Keywords:

calling; vocation;
career guidance;
Russian culture;
qualitative
document
analysis

Introduction

Life calling is a rapidly developing area of research in positive and vocational psychology, as well as in management and counseling. To date, the phenomenon of calling has been empirically investigated mostly in the United States and Europe. More than once scholars have pointed out the need for more research with non-Western subjects (e.g. Hagmaier & Abele, 2012; Duffy & Dik, 2013). The existing studies point out that although calling seems to be salient in non-Western cultures, its manifestations are somewhat different (Douglass, Duffy, & Autin, 2016), and extant measurement instruments show only partial validity (Autin, Allan, Palaniappan, & Duffy, 2017). Thus, more research on the construct of calling in non-Western cultures is needed for better understanding of this phenomenon. Also, a more thorough exploration of students' concept of calling is needed, given its significant role in the process of identity formation, and of exploring and identifying with alternative values, lifestyles, friends and partners, social groups, and occupations (LaGuardia & Ryan, 2002; Marcia & Archer, 1993).

Studying the nature of calling in Russian culture may bring fruitful results because Russian culture differs from both Western and Eastern cultures. The idea of calling permeates Russian culture on multiple levels and finds expression in Russian Orthodoxy, as well as in Russian philosophy, literature, and people's everyday lives. However, there has to date been no research, to our knowledge, which empirically explored the concept of calling in Russia. Hence employing qualitative methods seems appropriate for the initial examination of this phenomenon.

In this initial qualitative study, we explored secular conceptions of calling in students from two major Russian universities. In the first section of this paper, we summarize the key findings of studies on calling carried out with Western subjects. Then we review the research on calling in non-Western cultures, and finally move to the concept of calling in Russian culture and how it has changed throughout Russian history. Finally, we present our findings and discuss their implications for education and counseling practice, as well as the direction of further research.

Research on calling in the West

The phenomenon of calling has been studied chiefly among Western populations. Multiple studies show that calling is related to various measures of well-being in different populations, such as work and life satisfaction (Wrzesniewski, McCauley, Rozin, & Schwartz, 1997; Peterson, Park, Hall, & Seligman, 2009); meaning in life (Duffy & Sedlacek, 2010); and self-efficacy (Dik, Sargent, & Steger, 2008; Domene, 2012). The body of research continues to grow, but there is still a lack of agreement regarding the very definition of calling. As noted in studies by Baumeister (1991) and Elangovan, Pinder, and McLean (2010), the classical conceptualization of calling ("vocation," from the Latin *vocare*, to call), which stemmed from religion and was grounded in the notions of destiny and moral duty, has evolved into its modern conceptualization, which is focused on self-actualization and personal passion.

Currently there are several related constructs and corresponding measurement scales. They can be broadly divided into those focused on callings in specific areas of work and career, and those defining calling in a more general sense, reaching into other areas of life.

The first group includes the majority of the concepts and stems from the pioneering study by Bellah, Madsen, Sullivan, Swidler, and Tipton (1985), which was further developed by Wrzesniewski, et al. (1997). Another approach, developed by Hagmaier and Abele (2012), is also focused on work. Praskova, Creed, and Hood (2015) narrowed the focus even further, limiting their concept of calling not only to the work domain, but also to the period of emerging adulthood. Dreher, Holloway, and Schoenfelder (2007) approached calling in a somewhat broader sense, so as to include not only paid work, but also studies, personal projects, and problems, as well as the general experience of daily life.

Concepts in the second group expand the idea of calling beyond the work domain. Dobrow and Tosti-Kharas define it as *a consuming, meaningful passion people experience toward a domain* (Dobrow & Tosti-Kharas, 2011, p. 1005), with domains ranging from work, volunteering, and family to more abstract concepts like “social justice.” Dik and Duffy (2009) initially defined calling more broadly, but later proposed a new definition which focuses specifically on the work domain (Duffy & Dik, 2013).

To date, relatively few studies have used qualitative methods to investigate the nature of calling and its implications for work and life. Bunderson and Thompson (2009) in their study on a sample of zookeepers found out that their sense of calling, on the one hand, cultivated a strong professional identification and a sense of meaning and importance, and on the other hand, led to an increased sense of duty, personal sacrifice, and vigilance. In another study, Duffy et al. (2012) interviewed counseling psychologists who perceived their work as a calling. They understood calling as their purpose in life, closely tied to helping or serving others.

While those two studies used adult samples, there have also been several qualitative studies on calling among students. French and Domene (2010) interviewed Canadian Christian female university students and elicited five main themes associated with calling: 1) altruistic focus; 2) intensity; 3) deep passion for the domain of the calling; 4) facilitation of others discovering their calling; and 5) the burdens of having a calling. Another study, conducted by Hunter, Dik, and Banning (2010) via an online survey in the United States, found that the participants considered their calling to have stemmed from a guiding force, and to be associated with a higher sense of eudaimonic well-being and job fit.

Research on calling in non-Western cultures

Research on calling in non-Western populations has just begun. Two quantitative cross-cultural studies involving working adults from the United States and India were aimed at comparing their experience of calling (Douglass et al., 2016), and testing the cross-cultural validity of measurement instruments (Autin et al., 2017). The results of the latter (Autin et al., 2017) put into question the equivalence of the measurements of calling in different cultures and the validity of cross-cultural comparisons.

In light of those findings, qualitative studies may be a good starting point for exploring cultural differences in the manifestation of calling. One such study has been conducted in India on a sample of junior doctors and interns (Nath, 2017). It was found that a sense of calling before entering the medical profession evolved through a family legacy, an emotional response to significant life episodes, and a sense of destiny or direction by a higher power. Another qualitative study was car-

ried out in China (Zhang, Dik, Wei, & Zhang, 2015) on a sample of college students, with the aim of exploring their perception of the concept of calling. The most prevalent theme was that calling was a guiding force which manifested itself primarily in a sense of duty. Another theme was associating calling with one's meaning in life, values, and fulfilling purpose.

An additional qualitative study was conducted in Korea among working adults in various fields (Kwon & Kim, 2014). This study revealed a cognitive component (perceiving a calling) which included having a mission, seeing work as a source of value and goals, and being motivated by contribution and devotion; and a behavioral component (living a calling) which manifested itself in taking responsibility, altruistic behavior, feeling passion for and being absorbed by work, and having a sense of gratification.

As noted by Autin et al. (2017, p. 11), "calling may be a viable construct to examine in other non-Western cultures." It is, of course, premature to draw conclusions about the manifestations of calling in non-Western cultures. But it seems that, regardless of cultural context, calling is grounded in a sense of meaning and passion for one's occupation, and is linked with altruistic behaviors and a sense of positive well-being at work, as well as in other domains and life at large. In the next section we will examine different facets of the phenomenon of calling in Russian culture.

The idea of calling in Russian culture

The idea of calling in Russian culture (*prizvanie* in Russian) is rooted in Orthodox Christianity, and manifests itself on three interconnected levels: a universal human calling, the messianic calling of the Russian people, and a personal occupational calling. The notion of a universal human calling in Orthodox Christianity lies in the gradual deification, or accommodation, of man to God, in Whose image he was created, through virtue (Lossky, 1978). Achieving this goal is possible only within the church and the community, for "only if he loves his neighbor can a person be deified" (Ware, 1993, p. 230).

The idea of the messianic calling of the Russian people took shape in the course of the historical development of Russia, as a consequence of recurring episodes of suffering, with the hope for redemption. It was further reinforced by Russia becoming the center of Orthodox Christianity after the fall of Byzantium, and the emergence of the doctrine of Moscow as the Third Rome in the 16th century (Duncan, 2002).

Calling in Russian culture also bears an occupational meaning, emerging from Orthodoxy, and further influenced by major societal and economic transformations in the course of Russian history. In the literature of the Tsarist period, occupational calling was conceptualized as following one's "inner voice," the gradual development of occupational identity, or the pursuit of the civic duty and serving people through work (Klimov & Noskova, 1992). In the Soviet Union, work was glorified, and the idea of "communist labor" (work as the prime inner need of each person and an end in itself) was promoted through various media. Throughout the turbulent decade following the collapse of the Soviet Union, when economic survival was in question for a large share of the population, work continued to be a central value, with "guaranteed work" the main desired outcome (Khakhulina, 2008). Then, as economic stability increased in the 2000s, some people, especially

the younger generation, shifted their attention to other interests, such as family and friends (Ardichvili, 2009).

In recent years the idea of occupational calling seems to have again attracted interest. A range of self-help books on the topic have been published, mostly during the last five years. Also, many in-class and online courses aimed at helping people find their callings have been created. Unfortunately, all those initiatives are not supported by research and are based mainly on their authors' personal experience. No research in Russia, to our knowledge, has specifically addressed the phenomenon of calling and examined it empirically, despite Russia's long intellectual and spiritual tradition and extensive research on related constructs, such as personal meaning (Leontiev, 2013). In the following sections we expound on the findings from our survey of students from two major Russian universities about their secular concepts of calling.

Methods

The aim of the present study is an initial exploration of the phenomenon of calling in Russian culture. Since calling has not been empirically examined previously, an inductive qualitative approach has been chosen.

Our data were collected via an online survey taken by 104 students from two top Russian universities: 51 students from the National Research University Higher School of Economics (hereafter referred to as HSE) and 53 students from the National Research Nuclear University MEPhI (hereafter MEPhI). HSE students completed the questionnaire as part of a career guidance elective course; MEPhI students completed it during an introductory psychology elective course. Participation in the survey was anonymous and voluntary; the participants did not receive credit or other incentives. The mean age was 18.9 years ($SD = 1.6$; range = 17–31). The majority of respondents self-identified as female ($N = 81$; 77.9%). The HSE sample was more heterogeneous (mean age was 20.4 years; $SD = 1.64$; range = 17–31, six fields of study), whereas the MEPhI sample was more homogeneous (mean age 17.5 years; $SD = 0.52$; range = 17–19, one field of study). This was due to the fact that the course at HSE was available to all students, whereas the course at MEPhI was designed for first year students of one academic program.

The questionnaire included both open-ended and closed questions. The closed questions ("Do you have a calling in your life?", "Do you know people who have a calling?", "Are you searching for your calling?") were included in order to lead the respondents to answer appropriate open-ended questions through the online form, depending upon whether they were searching for a calling, or had already found one. We were interested in both cognitive and behavioral components, i.e. how students defined calling, and what actions they undertook to discern and implement it.

The questionnaire was completed by a total of 126 students. One hundred four (104) of them (83.2% in total: 79.7% in HSE and 85.5% in MEPhI) indicated that calling was a relevant concept for them by giving a positive answer to at least one of the closed questions. Those respondents were further asked to define calling as they understood it. The majority of the respondents (71.1%) indicated that they did not have a calling, but knew people who did. Almost all of them were also searching for a calling, and were asked what they were doing to find it. The remaining

28.9% of the respondents indicated that they had a calling, and were asked what it was and what they did to actualize it in their lives. The relationship between the sense of having a calling and the participants' gender was insignificant, according to the Chi-square Test ($\chi^2 = 1.52$; $df = 1$; $p > 0.05$). However, the sense of having a calling was significantly related to age, according to one-way ANOVA (Welch's $F(1, 65.82) = 4.41$; $p < .05$). As indicated by the Games-Howell post hoc test, the mean age of students with callings ($M = 19$; $SD = 5.4$) was significantly higher than the mean age of students who indicated that they did not have a calling ($M = 18$; $SD = 3.6$) at $p < .05$.

The open-ended questions were analyzed using qualitative document analysis (Altheide, Coyle, DeVriese, & Schneider, 2008). This procedure means that instead of using predefined categories, the researchers derive them inductively from the data. Such an inductive approach is appropriate for working with phenomena about which there is limited prior knowledge (Elo & Kyngäs, 2008), which is the case for the concept of calling in Russian culture. Furthermore, in previous qualitative studies of students' conceptualizations of calling (Hunter et al., 2010; Zhang, Dik, et al., 2015), the same method was employed, and thus its use would allow comparison of the results.

First, the answers to the open-ended questions were independently coded by both authors and a third expert, using the procedure of initial coding (Saldaña, 2015). The answers were split into discrete blocks which were closely examined and assigned descriptive labels summarizing their meaning. Previously coded answers could be re-coded, if labels which later emerged from the data seemed to convey the meaning better. This process continued until a saturation level was reached, which suggested that no new labels could be derived from the data. In order to reach inter-coder consensus, the coders met to compare and discuss the labels. As a result, some of the labels were renamed and redefined, and a final list was created. An analytic memo, laying out the labels, their descriptions, and examples of answers, was written to prepare for the next stage of the analysis, axial coding. Its goal was to develop categories, or themes, representing several labels. Each label could be used in more than one theme. The researchers initially went through this process individually, and then met to discuss the results and adjust the themes to better reflect the labels' meanings. The themes were subsequently described in an analytic memo which served as the basis for the present paper.

Results

Definition of calling

The responses to the question, "What do you mean by calling, how would you define it?" were coded by 15 labels which subsequently formed six themes: *Intrinsic Motivation*; *Success*; *More than a Job*; *Dedication*; *Abilities*; and *Energy Influx*. As shown in Table 1, the theme *Intrinsic Motivation* reflects the labels which point to an internal impulse to engage in an activity for its own sake, finding it personally rewarding and enjoyable, and perceiving a fit between oneself and an occupation. Respondents also often referred to attaining a desired result or getting positive feedback, often without considerable effort, as an indicator of calling, which is reflected in the theme *Success*.

The next theme, *More than a Job*, amalgamates answers which suggest seeing one's current or future occupation as meaningful and worthy of dedicating one's life to. The theme *Dedication* means readiness to commit resources and bring benefit to others, even without material reward. The respondents also frequently mentioned abilities in a particular area, inborn or cultivated, which was reflected in the theme *Abilities*. Finally, several participants mentioned becoming more energized by, rather than weary of, calling-related activities, which constituted the theme *Energy Influx*. The majority of the responses reflected more than one theme, as can be observed in the examples in *Table 1*.

Table 1

Definition of calling: themes, labels, and examples

Intrinsic motivation

Positive affect. Participant 43: "Ability to do something and enjoy the process"

Interest. Participant 18: "Passion, being sick with something (in a good sense), when your eyes are glowing as you are talking about this subject"

Urge. Participant 3: "Something, that a person would like to do, where she actualizes the strengths that she mastered, and which she is best at"

Fit. Participant 74: "When a person occupies her niche, finds something she would like to specialize in"

Success

Successful performance. Participant 21: "Something you are successful at more than others, while spending the same amount of resources"

Ease. Participant 52: "You like what you do, and you don't have to exert titanic efforts to master it"

More than a Job

Purpose. Participant 22: "Something that a person constructs her existence for, her personal life mission"

Self-realization. Participant 60: "Calling is an occupation in which a person can actualize herself, realize her potential and make a contribution to society"

Lifetime project. Participant 118: "It is something that a person is willing to dedicate her whole life to"

Contribution. Participant 125: "A person's goal, her contribution to the development of the mankind"

Dedication

Unselfishness. Participant 25: "Calling is a kind of work that you love and are ready to carry on without monetary incentives"

Contribution. Participant 125: "A person's goal, her contribution to the development of mankind"

Investing resources. Participant 16: "An occupation in which a person can invest her resources totally, and which she enjoys"

Abilities

Competences. Participant 14: "Developed talents and interest in the profession"

Giftedness. Participant 73: "It is that 'handicraft' which comes easily by itself; it is given by nature, when you live and breathe it"

Energy Influx

Energy influx. Participant 49: "To engage in something which brings energy, an occupation that makes you feel fulfilled, which makes the world a better place"

Note. Themes are in bold, labels are in italic. In the examples of responses, the pronouns are used according to the participants' gender.

Activities toward discernment of calling

The majority of the participants indicated that they were searching for a calling. They were further asked to describe what actions they undertook to discern it. Their responses were grouped into two themes (*Behavior* and *Processing*), which included the majority of the answers, and a less prominent third theme, *Nonspecific*. The themes *Behavior* and *Processing* reflected two sides of searching for a calling: 1) observable activity aimed at exploring different domains, and 2) the internal activity of reflecting on one's experiences and self-development. The third theme, *Nonspecific*, included answers in which actions were not clearly articulated (for example, Participant 99 wrote, "Simply living and observing"), or were non-existent. See Table 2 for more examples of participants' responses.

Table 2

Activities to discern one's calling: themes, labels, and examples

Behavior

Experimentation. Participant 37: "I'm experimenting with different occupations. Analyzing what I like in one profession or another"

Information search. Participant 74: "Reading diverse literature, looking for a hobby which would strike my fancy"

Studying. Participant 94: "Studying at a university. Looking for a profession in which I can be confident and will be able to fulfill my duties decently"

Communication. Participant 4: "Communicating with representatives of different companies"

Processing

Successful performance. Participant 21: "Something you are successful at more than others, while spending the same amount of resources"

Ease. Participant 52: "You like what you do, and you don't have to exert titanic efforts to master it"

Nonspecific

Nothing. Participant 45: "Nothing, so to say"

Living my life. Participant 99: "Simply living and observing"

Note. Themes are in bold, labels are in italic.

The content of a calling

The participants who indicated that they had a calling, were asked what their callings were. Out of 10 labels assigned to the responses, four themes emerged: 1) *Specific Domain*; 2) *Other-oriented Calling*; 3) *Self-oriented Calling*; and 4) *I Don't Know*, as shown in Table 3. Only 10% of the total number of the respondents indicated a particular profession, subject, or life role, which could be reflected in the theme *Specific Domain*. The majority of the respondents mentioned abstract other-oriented callings, such as contributing and helping others, or equally abstract self-oriented callings, such as self-development, independence, and happiness. Other-oriented callings were much more widespread than self-oriented callings, with the most frequently coded labels being *Contribution* and *Helping*. Finally, some of the respondents said that they did not know what their calling was.

Table 3
Content of calling: themes, labels, and examples

Specific Domain <i>Specific subject.</i> Participant 91: "I found my calling in sport dance" <i>Family.</i> Participant 102: "I'm the eldest in my family"
Other-oriented Calling <i>Contribution.</i> Participant 33: "To be helpful to the society and assist people whenever possible" <i>Helping.</i> Participant 125: "To solve the society's current real-life challenges. To give positive emotions with my very existence and actions, help people by virtue of my abilities" <i>Beneficial communication.</i> Participant 15: "In communication with benefit" <i>Family.</i> Participant 102: "I'm the eldest in my family"
Self-oriented Calling <i>Self-development.</i> Participant 77: "In constant self-development" <i>Independence.</i> Participant 122: "One strives to gain a foothold in life" <i>Fulfill one's predestination.</i> Participant 52: "To fulfill my predestination in life" <i>Happiness.</i> Participant 123: "To be happy"
I Don't Know <i>I don't know.</i> Participant 34: "I don't know yet what it is, but I'm sure it exists"

Note. Themes are in bold, labels are in italic.

Activities for implementation of calling

In addition to describing their callings, participants who indicated that they had a calling were asked to describe their activities directed at its implementation. Their responses were coded with seven labels, which were converted into two themes: *Doing Something* and *Doing Everything/Nothing*. The first theme reflected a broad scope of specific activities aimed at pursuing a calling, which could not be meaningfully divided into smaller groups. The second theme included responses indicating broad uninformative actions such as "nothing" and "everything". See *Table 4* for examples of participants' responses.

Table 4
Activities for implementation of calling: themes, labels, and examples

Doing Something <i>Learning.</i> Participant 33: "I'm trying to absorb the most useful knowledge which the university provides" <i>Practicing.</i> Participant 104: "I'm photographing and taking interest in psychology" <i>Development.</i> Participant 91: "I'm exercising persistently and perfecting my skills" <i>Communication.</i> Participant 15: "I'm widening my social circle" <i>Search.</i> Participant 121: "I didn't make up my mind yet; I'm studying and trying everything. If I like something, I try to do it more and wholly give myself to it"
Doing Everything/Nothing <i>Nothing.</i> Participant 39: "As yet, nothing" <i>Everything to be happy.</i> Participant 123: "Things that make me happy"

Note. Themes are in bold, labels are in italic.

Discussion

The purpose of the present study was to examine Russian students' secular conceptions of calling, including both cognitive and behavioral components, i.e. their definitions of calling, and actions they undertook to discern and actualize that calling. Some of our findings seem to correspond to previous research, and some are rather surprising.

In a qualitative analysis of the responses to the open-ended question about the definition of calling, we identified six main themes: *Intrinsic Motivation*, *Success*, *More than a Job*, *Dedication*, *Abilities*, and *Energy Influx*. The most prominent theme *Intrinsic Motivation* reflects interest and an urge towards a calling domain, as well as a sense of fit and positive affect. This outcome echoes Dreher et al.'s (2007) view of calling as an intrinsically motivated occupation imbued with significance and joy. Wrzesniewski et al. (1997) also refer to calling as an end in itself, as opposed to the other two work-related orientations, job and career, which serve as means to other ends (monetary rewards and career advancement).

It is notable that positive affect was the most frequently coded label, and no negative aspect, such as burden or sacrifice, was ever mentioned by participants in the present sample. This might be due to their lack of experience of living a calling; the majority of the respondents indicated that they had not found their callings yet. It is also possible that such unrealistic expectations are created by popular literature on calling currently circulating in Russia. The authors of such literature often promote calling as an occupation that, once found, automatically and inevitably brings enjoyment and success. This might be one of the reasons why the next theme that we identified, *Success*, was so frequently referred to as an indicator of calling, which was not characteristic of American and Chinese samples in similar studies (Hunter et al., 2010; Zhang, Dik, et al., 2015). This finding could indicate that for Russian students, "career" work orientation (as conceptualized by Wrzesniewski et al., 1997) is so strong that it merges with their concept of calling.

The third theme, *More than a Job*, expresses the tendency to see one's occupation as a source of self-realization and a personally meaningful project which can potentially span one's whole life. It is congruent with a large body of research linking the concept of calling to meaning in life (e.g., Dik et al., 2008; Duffy & Sedlacek, 2010). The next theme, *Dedication*, reflects the desire to give: invest resources and contribute to the other people's well-being. This theme is less pronounced in our findings regarding the definition of calling, but it frequently appears in the responses to the question about the content of calling. The majority of the respondents mentioned other-oriented callings such as contributing and helping, rather than self-oriented callings, such as self-development and happiness. This outcome is in line with the view of Russian culture as being "in-between" West and East in terms of the individualism/collectivism dimension (Latova & Latov, 2008), and provides evidence for Dik and Duffy's (2009) hypothesis that in individualistic cultures, personal meaning could be more salient, and in collectivistic cultures, social contributions could play a larger role in the conceptualization of calling.

The next theme, *Abilities*, was less prominent, but still noticeable. It emerged from responses stating that having a calling provides opportunities for one to employ one's inborn or cultivated abilities. This resonates with Bunderson and Thom-

son's (2009) study, as well as research by Harzer and Ruch (2012) which associates calling with the use of signature strengths. It is also noteworthy that using strengths and abilities was mentioned by the respondents in an analogous study in the United States (Hunter et al., 2010), but not in China (Zhang, Dik, et al., 2015), a result which provides additional evidence for the above-mentioned notion about the influence of the individualism/collectivism dimension on the concept of calling in this Russian sample. The final theme, *Energy Influx*, amalgamated the idea of deriving energy from calling-related activities, rather than spending it. This outcome echoes a finding that zestful individuals tended to approach their work as a calling (Peterson et al., 2009).

One striking difference in our findings from the analogous studies in the United States and China (Hunter et al., 2010; Zhang, Dik, et al., 2015) is that Russian respondents did not refer to a guiding force, such as God, destiny, society, or family, as a source of calling. The closest idea to that was a sense of mission and purpose from an amorphous source. The lack of religious or spiritual references showcases an inclination to a more secular concept of calling, which could be a result of secularization caused by a long period of atheistic communism, as well as the global tendency toward secularization.

Our analysis of the responses to the question about the activities involved in the discernment of calling elicited three themes: *Behavior*, *Processing*, and *Nonspecific*. The first two themes involved experimentation with different domains, followed by self-reflection. Similar findings were reported in qualitative studies on samples of working adults with callings. The discovery of calling was facilitated by exposure to a calling domain (Duffy et al., 2012) and involved trying out different professions (French & Domene, 2010). Dobrow (2013) also pointed out that behavioral involvement with different domains furthers the development of a calling through a process of testing out different provisional selves. The majority of the respondents were actively engaged in their search for calling; however, a small share indicated that they were not doing anything at the moment, or were just "living their lives;" these responses were included under the theme *Nonspecific*.

We were also interested in the actual content of the callings of those participants who indicated that they had one. Four themes were identified: *Specific Domain*, *Other-oriented Calling*, *Self-oriented Calling*, and *I Don't Know*. Only a handful of the respondents provided a specific domain, such as mathematics or sport dance. The majority described their callings in abstract terms or indicated that they did not know what their calling was. This result provides additional evidence to support the notion that calling can be experienced towards a wide spectrum of domains, from a specific occupation to an abstract cause or life in general. This view is supported by a number of scholars who define calling as a life role (Dik & Duffy, 2009), a meaningful passion towards a domain (Dobrow & Tosti-Kharas, 2011), and the experience of joy and meaning in work and daily life (Dreher et al., 2007). We also asked the respondents how they implemented their callings in their lives. The analysis produced two themes: *Doing Something*, or active behavioral involvement with the calling domain, and *Doing Everything/Nothing*, or the lack of specific actions. The majority of the respondents reported such activities as practicing, studying, development, and communication.

Conclusion

Overall our findings on the concept of calling in Russia converge with previous research results on calling in Western and non-Western samples on the following key points: 1) calling is a salient concept for Russian culture; 2) a sense of calling is grounded in personal meaning and other-oriented motivation, and is related to positive affect; 3) calling spans areas ranging from a specific occupation, domain, or life role to general life experience; and 4) the discernment of calling requires experimentation with different domains followed by self-reflection. Further exploration involving larger and more diverse samples is needed to better understand such outcomes as the students' expectation of entirely positive experience and success without considerable effort once a calling is found, as well as the lack of references to a guiding force as a source of calling.

The results of the present study can be used in career guidance in educational institutions, as well as in private counseling. Although Russia has a long tradition of vocational guidance dating back to the 1920s, it was (and still is) provided mostly at the high school level. Although a few universities have career planning centers, the majority of them rely on counseling and psychological services which are focused mainly on other psychological issues (Watts & Zabrodin, 2003). In this light university career guidance practices in Russia can include exploration of the concept of calling from the beginning, which is more convenient than integrating it into existing practices. As for private counseling, as it is understood in the West, it is just starting to emerge in Russia as a branch of social work (Currie, Kuzmina, & Nadyuk, 2012). Furthermore, the existing practices of career counseling in Russia at the school level and beyond are focused on abilities and skills rather than on personality and motivation.

The idea of calling and its discernment shifts the emphasis from aptitudes to personality, and makes personal preferences and values (i.e., motivation, broadly speaking) the most important aspect of this process. This is in line with the idea of choice readiness, which suggests that not every individual is capable of making a responsible personal choice that he or she would not later regret; what matters is the way one makes the choice rather than what one chooses, and most appropriate interventions consist in developing this general capacity for making decisions (Leontiev, Rasskazova, Fam, & Ovchinnikova, 2016). We further elaborate below on specific points that counselors may discuss with clients, and challenges that may be encountered in the counseling process. For convenience, we refer to both private counselors' clients and students who receive career guidance as "clients."

If the idea of calling is relevant for the client, it is important to discuss how the client defines it and to adjust the counseling process accordingly. Possible questions to explore with the client are his/her sources of positive emotions, abilities and signature strengths, values system, and ways of contributing to others' lives. As a result of this process, a broad understanding of possible callings may emerge. At this point, because the research suggests that experimentation and exposure to different domains is crucial in discerning one's calling, it is important to lead the client to look for concrete opportunities to engage with possible callings. Research results suggest that calling may be experienced in a variety of domains; hence it is advisable to look for opportunities in a professional setting, volunteering, education, leisure, personal life, and others.

Our findings also point to challenges that can be encountered in counseling work on calling, namely the client's expectation of success without considerable effort, and lack of awareness of the negative aspects of calling. In view of this, it is advisable to introduce the client to a more realistic picture of what it means to have and live a calling, and discuss challenges that may arise on the way toward discerning and implementing one's calling, as well as ways to mitigate those challenges.

Limitations

The results of the present study provide important insights into the concept of calling in Russian culture; nevertheless, its limitations call for further research in a number of directions. A major limitation often encountered in qualitative research is a restricted sample. Our sample was comprised of students from two highly competitive universities who chose psychology-related elective courses, which could point to a systematic difference between them and students who do not exhibit interest in psychology and study in the other universities. Hence research with a more diverse sample, including from universities located in different regions of Russia, is needed to find out whether our findings are characteristic of the larger population of Russian students.

Also, as indicated by Hunter et al. (2010) and Zhang, Dik, et al. (2015), although college students are a good starting point for the exploration of the construct of calling, given the role calling can play in identity formation, further research should include working adults with more work and life experience and varying levels of education, who could present a different perspective on calling.

Finally, all participants who indicated that calling was a relevant idea for them were included in the study, regardless of the intensity of their connection with this concept. As noted by Hunter et al. (2010), the depth of this connection may influence the conceptualizations of calling and should be accounted for in future research. Because of these limitations, the comparison of the concept of calling in Russian culture based on our findings with concepts of calling in other cultures is possible, but needs to be done with caution.

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Using the Model Statement Technique as a Lie Detection Tool: A Cross-Cultural Comparison

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Background. Researchers have started to demonstrate that verbal cues to deceit can be elicited through specific interview protocols. One that has yielded success is the Model Statement technique, which works as a social comparison and raises interviewees' expectations about how much information they are required to report. This technique has been developed and tested in the United Kingdom, and is used in the field. A tool used in the field should be thoroughly examined in different settings, including in different cultures.

Objective. We examined the effect of the Model Statement tool on eliciting information and cues to deceit in Russian and South Korean participants.

Design. A total of 160 Russian and South Korean participants were recruited via an advert on the university intranets and advertisement leaflets. The advert explained that the experiment would require participants to tell the truth or lie about a trip away that they may (or may not) have taken within the last year. Truth tellers described a trip they made during the last twelve months, whereas liars made up a story about such a trip. Half of the participants listened to a Model Statement at the beginning of the interview. The dependent variables were "detail", "complications", "common knowledge details", "self-handicapping strategies", and "ratio of complications".

Results. The Model Statement elicited more details from both Russian and South Korean participants and strengthened "complications" and "ratio of complications" as cues to deceit in both samples. The effects were the strongest amongst South Korean participants.

Conclusion. The Model Statement technique seems to work across different cultures, but more research is required to determine why it worked better amongst South Korean than Russian participants.

Keywords:
Model Statement,
cross-cultural
comparison,
information
gathering,
deception

Introduction

Research spanning several decades has shown that cues to the deceit that liars spontaneously display are faint and unreliable (DePaulo et al., 2003). Consequently, researchers have started to examine whether such cues can be elicited through specific interview protocols (Vrij & Granhag, 2012). One technique that has yielded success is the Model Statement technique, which is now used in the field (Vrij, Leal, & Fisher, 2018). It has been developed in the United Kingdom and tested on British participants (Leal, Vrij, Warmelink, Vernham, & Fisher, 2015; Vrij, Leal, Jupe, & Harvey, 2018). A tool that is used in the field should be thoroughly examined in different settings, including in different cultures. In this study, we examined the efficacy of the Model Statement with Russian and South Korean participants.

A Model Statement is a detailed example of an account unrelated to the topic of investigation (Leal et al., 2015). It works as a social comparison and raises interviewees' expectations about how much information is required from them in an answer. Raising such expectations is often needed because interviewees tend to underestimate how much detail they are supposed to report (Vrij, Hope, & Fisher, 2014). A Model Statement works better to elicit as many details as possible than a verbal instruction to report all details someone can remember, because the Model Statement is an example of a detailed answer, and examples are usually easier to follow than instructions (Vrij, Leal, & Fisher, 2018).

Since a Model Statement raises expectations amongst both truth tellers and liars that they should provide more details, both groups tended to report a similar amount of additional details after being exposed to a Model Statement (see Vrij, Leal, and Fisher [2018] for a review of Model Statement deception research). However, truth tellers and liars appear to provide different details after listening to a Model Statement, with truth tellers reporting more complications than liars, and obtaining a higher ratio of complications score than liars (Vrij, Leal, & Fisher, 2018). A complication (e.g., "Initially we did not see our friend, as he was waiting at a different entrance") is an occurrence that makes a situation more difficult to report than necessary (Vrij, Leal, & Fisher, 2018). In interviews, liars prefer to keep their stories simple (Hartwig, Granhag, & Strömwall, 2007), but adding complications makes the story more complex. A Model Statement increases the number of complications interviewees report, particularly for truth tellers (Vrij et al., 2017; Vrij, Leal, Jupe, & Harvey, 2018). Complications are often not about key aspects of the activities that someone describes, and the story can be well understood without reporting the complications. Therefore, truth tellers may leave at least some of them out when they have not been exposed to a Model Statement. Liars are reluctant to provide complications, in order to keep their story simple.

To examine the ratio of complications, two verbal cues need to be considered which are thought to be more present in liars' than in truth tellers' accounts: "common knowledge details" and "self-handicapping strategies". Common knowledge details refer to strongly invoked stereotypical information about events ("We visited the Louvre museum where we saw the Mona Lisa") (Vrij et al., 2017). Liars are more likely to include common knowledge details in their statements than truth tellers (Sporer, 2016). Truth tellers have personal experiences of an event and are likely to report such unique experiences. When they do

so, the statement goes beyond reporting stereotypical information. If liars do not have personal experiences of the event they report, they will draw upon general knowledge to construe the event. Even if liars do have personal experiences of such an event, they may not report them due to their desire to keep their stories simple. “Self-handicapping strategies” refer to justifications as to why someone is not able to provide information (“I can’t remember; it was a while ago when this happened”) (Vrij et al., 2017). Liars are more likely to include self-handicapping strategies in their statements than truth tellers (Vrij et al., 2017). For liars, who are inclined to keep their stories simple, not having to provide information is an attractive strategy. However, liars are also concerned about their credibility and believe that admitting lack of knowledge and/or memory appears suspicious (Ruby & Brigham, 1998). A potential solution is to provide a justification for the inability to provide information.

The ratio of complications (complications / [complications + common knowledge details + self-handicapping strategies]) should be a more diagnostic cue to deceit than the cue “total details”, because it takes the different strategies from truth tellers and liars better into account. Research has shown that truth tellers typically report more details than do liars (Amado, Arce, Fariña, & Vilarino, 2016), because liars are unable or unwilling to provide as much information as truth tellers do (Vrij, 2008). They may be unable because they lack the imagination to report as many plausible details as truth tellers do or they may be unwilling out of fear that such details would give their lies away. However, the combined measure “total details” includes details that are more likely to be reported by truth tellers (complications) and details that are more likely to be reported by liars (common knowledge details and self-handicapping strategies). The ratio of complications score makes apparent the different verbal cues truth tellers and liars use — it should be higher in truth tellers, and should therefore be a more diagnostic cue to deceit than the generic measure “total details”.

Different communication styles are used in different cultures. A communication style is the way people communicate with others (Liu, 2016). A frequently used distinction is that between high-context and low-context communication (Hall, 1976). According to Hall (1976), messages exchanged in high-context cultures (e.g., South Korea) carry implicit meanings and rely heavily on context. In a higher-context culture, many things are left unsaid, letting the culture explain. Words become important in higher-context communication, since a few words can communicate a complex message very effectively to an in-group member. By contrast, in low-context cultures (e.g., Russia), it is important for the communicator to be explicit in order to be fully understood. This would imply that interviewees in low-context cultures would provide more information to make the message understood. There is no theoretical reason to predict that a Model Statement would work in one culture but not in another; however, a Model Statement may be more effective in high-context cultures than in low context-cultures. A Model Statement has more potential to elicit additional information and cues to deceit if an interviewee volunteers less information without having listened to a Model Statement (Model Statement-present condition), which we expect to happen in high-context cultures.

Hypotheses

We formulated the following hypotheses:

- Truth tellers will report more details than liars (*Hypothesis 1*).
- Truth tellers will include in their statements more complications (*Hypothesis 2a*), fewer common knowledge details (*Hypothesis 2b*), and fewer self-handicapping strategies (*Hypothesis 2c*) than liars.
- Truth tellers will obtain a higher ratio of complications than liars and this cue will be a more diagnostic cue to deceit than total details (*Hypothesis 3*).
- A Model Statement will increase the number of reported details both in truth tellers and liars (*Hypothesis 4*).
- A Model Statement will increase the number of complications, particularly amongst truth tellers (*Hypothesis 5*).
- Following on from Hypothesis 5, the ratio of complications will be higher in truth tellers than in liars, particularly in the Model Statement-present condition (*Hypothesis 6*).
- South Korean participants (high-context culture) are expected to provide fewer details than Russian participants (low-context culture) (*Hypothesis 7*).
- The Model Statement effects presented in Hypotheses 4 to 6 should work in both Russian and South Korean participants, but particularly in South Korean participants (*Hypothesis 8*).

To test the hypotheses, we used part of a data set previously reported in Vrij et al. (2017). We used the Korean and Russian participants and left out the Hispanic participants, because that sample was too small ($n = 39$) for reliable analysis. In Vrij et al. (2017) the same dependent variables were reported as in the present article; however, in the earlier article, the data were not analysed for the Korean and Russian participants separately. Instead, the focus was on the effect of the presence of an interpreter on the dependent variables. In the present analyses, we were not interested in the effect of an interpreter, and included that factor as a covariate in the hypotheses-testing analyses.

Method

Participants

A total of 160 participants (34 males, 125 females, and two unknown) took part in the study. Their age ranged from 18 to 38 years with an average age of $M = 21.67$ years ($SD = 2.67$). Participation took place in universities in the Republic of South Korea and the Russian Federation and the nationality of the participants was South Korean ($n = 80$) and Russian ($n = 80$).

Procedure Outline

We present here an outline of the procedure (see Vrij et al. [2017] for a full description). Truth tellers ($n = 76$) discussed a trip they had made during the last twelve months, whereas liars ($n = 84$) pretended to have made such a trip. Both truth tellers and liars were given time to prepare themselves for the interview, which

consisted of six questions about the planning of the trip and experiences during the trip. In the Model Statement-present ($n = 80$) condition, participants listened at the beginning of the interview to a detailed audiotaped account in which someone described attending a motor racing event presented in the interviewee's native language (Leal et al., 2015). In a pre-interview questionnaire, participants were asked about their motivation to perform well during the interview, with (5) indicating high motivation. They were also asked about the thoroughness of their preparation ([7] indicated high thoroughness) and the preparation time given ([7] indicated sufficient).

Coding

The interviews were transcribed and translated into English. The coding was done by English coders based on the English transcripts. All coders were blind to the hypotheses and Veracity status of the interviewee. One coder coded each detail in the interview. To give an example, the answer "We went to the beach until 7 o'clock. We swam, ate sandwiches, and drank beer" contained six details. A second coder coded a random sample of 50 transcripts. Inter-rater reliability between the two coders, using the two-way random effects model for measuring consistency, was high (Single Measures ICC = .87).

Two coders coded independently from each other complications, common knowledge details, and self-handicapping strategies. Examples are: "Generally, we were about to miss the performance because of me, because they have another time there, an hour gain or lose, something like that" (complication); "We drank a lot during the flight and when the guys met us we continued to drink walking in the city" (common knowledge detail) and "I did not organise anything, our trips are always planned by dad" (self-handicapping strategy). Inter-rater reliability between the two coders was high for complications (Average Measures, Intraclass correlation coefficient, ICC = .95) and self-handicapping strategies (Average Measures ICC = .85) and satisfactory for common knowledge details (Average Measures ICC = .64). Disagreements were resolved between the two coders. The ratio of complications was calculated as complications / (complications + common knowledge details + self-handicapping strategies).

Results

Preparation Thoroughness, Preparation Time, Motivation, and How Many Days Discussed

Four ANOVAs with Veracity and Nationality as factors and preparation thoroughness, preparation time, motivation, and how many days away discussed during the interview as dependent variables revealed one main effect for Veracity (preparation time: $F(1, 156) = 27.43, p < .001, d = 0.81, 95\% \text{ CI } [0.48, 1.12]$) and two main effects for Nationality (preparation time: $F(1, 156) = 13.16, p < .001, d = 0.56, 95\% \text{ CI } [0.24, 0.87]$ and for how many days discussed: $F(1, 156) = 8.89, p = .003, d = 0.48, 95\% \text{ CI } [0.16, 0.79]$).

Truth tellers ($M = 6.13, SD = 1.21, 95\% \text{ CI } [5.79, 6.46]$) rated their preparation time as more sufficient than did liars ($M = 4.89, SD = 1.76, 95\% \text{ CI } [4.59, 5.22]$). In

addition, Russians ($M = 5.93$, $SD = 1.37$, 95% CI [5.61, 6.26]) rated their preparation time as more sufficient than did South Koreans ($M = 5.04$, $SD = 1.78$, 95% CI [4.77, 5.42]). Russians ($M = 5.16$, $SD = 5.42$, 95% CI [4.18, 6.10]) also discussed more days than did South Koreans ($M = 3.05$, $SD = 2.97$, 95% CI [2.13, 4.05]). We included preparation time and how many days discussed as covariates in the hypotheses testing analyses, together with the Interpreter factor.

Hypothesis Testing

We carried out MANCOVAs to test the hypotheses. We also examined Bayes Factors (BF) analyses, which is a method to test the probability of the observed data under the null hypothesis compared to the alternative hypothesis (Wetzels & Wagenmakers, 2012). A BF_{10} smaller than 1 indicates evidence for the absence of an effect (support of the null hypothesis), BFs between 1 and 3 suggest weak evidence, and BFs between 3 and 10 suggest substantial evidence (Jeffreys, 1961). We used the default Cauchy's prior of .707 for the Bayesian t -tests (Lakens, 2016).

A 2 (Veracity) \times 2 (Model Statement) \times 2 (Nationality) MANCOVA was conducted with detail, complications, common knowledge details, self-handicapping strategies, and ratio of complications as dependent variables, and preparation time, number of days discussed during the interview, and interpreter as covariates.

At a multivariate level, significant main effects emerged for Veracity, $F(5, 145) = 10.92$, $p < .001$, $\eta_p^2 = .27$, Model Statement, $F(5, 145) = 3.69$, $p = .004$, $\eta_p^2 = .11$, and Nationality, $F(5, 145) = 3.82$, $p = .003$, $\eta_p^2 = .12$. The Veracity \times Model Statement effect was also significant, $F(5, 145) = 3.50$, $p = .005$, $\eta_p^2 = .11$.

At a univariate level, one Nationality effect emerged: South Koreans ($M = 3.78$, $SD = 2.16$, 95% CI [3.23, 4.13]) included more common knowledge details in their reports than did Russians, ($M = 2.44$, $SD = 2.21$, 95% CI [1.98, 2.90]), $F(1, 149) = 13.65$, $p < .001$, $d = 0.61$, 95% CI[0.29, 0.92]. Relevant for testing Hypothesis 7 is the finding that the Russians and South Koreans reported a similar amount of detail, $F(1, 149) = 0.91$, $p = .343$, $d = .16$, 95% CI[0.15, 0.45], $BF_{10} = .27$. This means that Hypothesis 7 is rejected. Perhaps a better test for Hypothesis 7 is to examine Nationality differences in the Model Statement-absent condition only. Even in that condition, Russian and South Korean participants provided a similar amount of detail, $F(1, 73) = 0.13$, $p = .719$, $d = .00$, 95% CI[-0.44, 0.44], $BF_{10} = .23$.

Since the Veracity \times Model Statement interaction effect is more informative than the Veracity and Model Statement main effects, only the interaction effect will be discussed. We hereby discuss these interaction effect findings for the two nationalities separately, as this cross-cultural comparison was the aim of this article.

Russian Participants

A 2 (Veracity) \times 2 (Model Statement) MANCOVA was conducted on the Russian sample with detail, complications, common knowledge details, self-handicapping strategies, and ratio of complications as dependent variables, and preparation time, number of days discussed during the interview, and interpreter as covariates. At a multivariate level, a significant main effect emerged for Veracity, $F(5, 69) = 4.53$, $p = .001$, $\eta_p^2 = .25$, whereas the Model Statement main effect, $F(5, 69) = 0.96$,

Table 1
Ms, SDs and CIs as a Function of Veracity

	Truth			Lie			F	p	d	BF ₁₀
	M	SD	95% CI	M	SD	95% CI				
Russian participants										
Total detail	352.79	393.04	267.29, 452.60	228.41	103.25	137.71, 317.54	3.88	.053	.43 (-.02, 0.87)	1.20
Complications	10.46	17.05	6.69, 14.69	3.44	3.78	-.18, 7.48	5.96	.017	.57 (.11, 1.01)	3.86
Common knowledge details	1.87	1.99	1.25, 2.40	2.98	2.30	2.39, 3.50	7.31	.009	.52 (.06, 0.95)	2.20
Self-handicapping strategies	0.26	0.55	-.03, 0.46	0.73	0.83	0.52, 0.99	9.43	.003	.67 (.21, 1.11)	9.95
Ratio of complications	0.74	0.27	0.63, 0.82	0.40	0.29	0.33, 0.51	19.93	< .001	1.21 (.72, 1.67)	23,772.23
South Korean participants										
Total detail	393.68	216.90	349.72, 451.98	270.77	128.37	219.19, 312.22	13.50	< .001	.69 (.23, 1.13)	14.34
Complications	13.73	11.43	11.39, 16.29	5.67	4.30	3.46, 7.96	21.47	< .001	.93 (.46, 1.38)	399.02
Common knowledge details	2.95	1.87	2.42, 3.78	4.49	2.15	3.73, 4.97	6.63	.012	.76 (.30, 1.21)	28.18
Self-handicapping strategies	0.32	0.58	0.14, 0.68	0.81	0.96	0.49, 0.98	2.84	.096	.62 (.16, 1.06)	4.66
Ratio of complications	0.73	0.23	0.66, 0.80	0.46	0.21	0.40, 0.53	29.84	< .001	1.23 (.73, 1.68)	42,401.51

Table 2
Ms, SDs and CIs as a Function of Veracity \times Model Statement (Interaction Effect) for Russian Participants

	Model Statement-absent			Model Statement-present			F	p	d	BF10
	M	SD	95% CI	M	SD	95% CI				
Total detail – Truth tellers	279.09	199.93	107.23, 438.19	448.18	545.25	267.79, 645.08	2.18	.149	.47 (-.18, 1.10)	0.638
Total detail – Liars	193.67	82.09	147.40, 238.80	255.61	111.42	215.63, 296.48	4.38	.044	0.62 (-.02, 1.24)	1.398
Complications – Truth tellers	7.41	8.69	0.02, 14.31	14.41	23.71	6.59, 22.88	1.98	.168	.41 (-.23, 1.04)	0.597
Complications – Liars	3.28	3.23	1.64, 4.82	3.57	4.23	2.20, 5.01	0.13	.721	.08 (-.54, 0.69)	0.315
Common knowledge details – Truth tellers	2.09	2.07	1.36, 2.88	1.59	1.91	0.68, 2.42	1.00	.325	.25 (-.39, 0.88)	0.399
Common knowledge details – Liars	2.67	2.03	1.82, 3.44	3.22	2.50	2.53, 3.97	1.33	.256	.24 (-.39, 0.85)	0.387
SHS – Truth tellers	0.32	0.65	0.08, 0.58	0.18	0.39	-0.12, 0.45	0.77	.387	.25 (-.40, 0.88)	0.403
SHS – Liars	0.67	1.03	0.25, 1.07	0.78	0.67	0.43, 1.15	0.23	.635	.13 (-.49, 0.74)	0.332
Ratio of complications – Truth tellers	0.72	0.26	0.60, 0.84	0.77	0.29	0.64, 0.91	.392	.535	.18 (-.45, 0.81)	0.354
Ratio of complications – Liars	0.46	0.31	0.32, 0.59	0.36	0.26	0.24, 0.48	1.03	.316	.35 (-.27, 0.97)	0.480

Note: SHS = Self-Handicapping Strategies

$p = .448$, $\eta_p^2 = .07$, and the Veracity \times Model Statement effect were not significant, $F(5, 69) = 0.80$, $p = .552$, $\eta_p^2 = .06$. The Veracity main effects are reported in Table 1. Truth tellers reported more complications and fewer common knowledge details than liars (weak effect according to BF_{10}), supporting Hypothesis 2a and to some extent Hypothesis 2b. Also the ratio of complication score was higher for truth tellers than for liars. The difference for total details was marginally significant, with truth tellers reporting more details than liars (weak effect according to BF_{10}), providing some support for Hypothesis 1. Ratio of complications was a more diagnostic cue than total details, supporting Hypothesis 3.

Even at a univariate level, none of the Model Statement effects were significant, although the effect for details reached borderline significance, $F(1, 73) = 3.36$, $p = .071$, $d = .34$, 95% CI [.02, .64], $BF_{10} = 0.62$. The BF results, however, provide support for the null hypothesis. Participants reported a similar number of details in the Model Statement-present ($M = 337.45$, $SD = 371.84$, 95% CI [149.06, 324.15]) and in the Model Statement-absent condition ($M = 240.65$, $SD = 162.21$, 95% CI [262.81, 439.13]). Hypothesis 4 is thus rejected.

We present the Veracity \times Model Statement interaction effect in Table 2 to provide the full set of results. Table 2 shows that the Model Statement had no effect on truth tellers in the Russian sample. None of the effects were significant and all BF_{10} scores < 1.00 . Liars reported more details in the Model Statement-present condition than in the Model Statement-absent condition, but the Bayes Factor indicates only weak evidence for this effect. The Bayes Factors further showed strong support for the null hypothesis for the non-significant effects in liars (all BF_{10} scores < 1.00).

Korean Participants

A 2 (Veracity) \times 2 (Model Statement) MANCOVA was conducted with detail, complications, common knowledge details, self-handicapping strategies, and ratio of complications as dependent variables and preparation time, number of days discussed during the interview and interpreter as covariates. At a multivariate level, significant main effects emerged for Veracity, $F(5, 69) = 7.01$, $p < .001$, $\eta_p^2 = .34$, and Model Statement, $F(5, 69) = 7.17$, $p < .001$, $\eta_p^2 = .34$. The Veracity \times Model Statement interaction effect was also significant, $F(5, 69) = 3.91$, $p = .004$, $\eta_p^2 = .22$.

Table 1 shows that truth tellers reported more details and more complications, but fewer common knowledge details than liars, supporting Hypotheses 1, 2a, and 2b. The ratio of complications score was also higher for truth tellers than for liars and this proportion score was a more diagnostic cue than total details. This supports Hypothesis 3.

Regarding the Model Statement main effects, participants in the Model Statement-present condition reported more details (supporting Hypothesis 4) and complications than participants in the Model Statement-absent condition (see Table 3). The ratio of complications score was also higher in the Model Statement-present condition than in the Model Statement-absent condition.

Truth tellers in the Model Statement-present condition, compared to truth tellers in the Model Statement-absent condition, reported more details, more compli-

Table 3
Ms, SDs and CIs as a Function of Model Statement

	Model Statement-absent			Model Statement-present			F	p	d	BF ₁₀
	M	SD	95% CI	M	SD	95% CI				
South Korean participants										
Total detail	240.40	130.11	195.46, 288.48	414.83	190.64	378.51, 471.65	30.62	< .001	1.07 (0.59, 1.52)	2071.42
Complications	5.78	4.72	3.59, 8.04	13.03	11.15	11.51, 15.97	24.99	< .001	.85 (0.38, 1.29)	85.68
Self-handicapping strategies	0.73	0.88	0.49, 0.98	0.45	0.81	0.16, 0.65	3.55	.063	.33 (-.12, 0.77)	0.58
Ratio of complications	0.50	0.24	0.45, 0.57	0.67	0.24	0.62, 0.75	15.64	< .001	.71 (.25, 1.15)	12.09

Table 4
Ms, SDs and CIs as a Function of Veracity \times Model Statement (Interaction Effect) for Korean Participants

	Model Statement-absent				Model Statement-present				F	p	d	BF ₁₀
	M	SD	95% CI	M	SD	95% CI	M	SD				
Total detail – Truth tellers	277.47	140.45	186.76, 354.94	516.33	218.44	436.90, 609.76	17.89		17.89	< .001	1.31 (0.57, 1.99)	77.582
Total detail – Liars	206.86	113.00	163.97, 262.20	331.77	113.19	277.86, 373.80	10.90		10.90	.002	1.10 (0.44, 1.72)	37.455
Complications – Truth tellers	7.26	4.63	2.62, 11.32	20.56	12.56	16.39, 25.34	20.22		20.22	< .001	1.42 (0.67, 2.11)	178.83
Complications – Liars	4.43	4.49	2.61, 6.42	6.86	3.85	4.92, 8.64	2.92		2.92	.096	0.58 (–.04, 1.18)	1.266
Common knowledge details – Truth tellers	3.37	1.92	2.46, 4.13	2.50	1.75	1.72, 3.44	1.46		1.46	.236	0.47 (–.19, 1.12)	0.705
Common knowledge details – Liars	4.29	2.45	3.56, 5.34	4.68	1.86	3.66, 5.40	0.02		0.02	.894	0.18 (–.42, 0.78)	0.347
SHS – Truth tellers	0.63	0.68	0.43, 0.86	0.00	0.00	–.23, 0.21	18.49		18.49	< .001	1.29 (0.56, 1.97)	66.538
SHS – Liars	0.81	1.03	0.40, 1.26	0.82	0.98	0.38, 1.22	0.01		0.01	.910	0.01 (–.59, 0.61)	0.300
Ratio of complications – Truth tellers	0.61	0.23	0.52, 0.69	0.86	0.12	0.78, 0.95	18.77		18.77	< .001	1.35 (0.61, 2.03)	123.885
Ratio of complications – Liars	0.41	0.22	0.31, 0.50	0.51	0.19	0.42, 0.60	2.93		2.93	.095	0.49 (–.13, 1.08)	0.844

Note: SHS = Self-Handicapping Strategies

cations, and fewer self-handicapping strategies (see Table 4). Subsequently, they also obtained a higher ratio of complications score. Liars in the Model Statement-present condition reported more details than did liars in the Model Statement-absent condition, but the other effects were not significant. The Bayes Factor analyses showed that all significant effects were substantial and that most non-significant effects supported the null hypothesis (the exception was liars' complications, which showed weak support in favour of the alternative hypothesis).

Discriminant Analyses

We tested the utility of the Model Statement for eliciting cues to deceit and focused on the three main dependent variables: total detail, complications, and ratio of complications. We ran discriminant analyses for the Model Statement-absent and Model Statement-present conditions separately and made a further distinction between Russian and Korean participants. In each case, the objective group to which the person belongs (truthful versus deceptive) was the classifying variable and the

Table 5
Results of the Discriminant Analyses

	Truth %	Lie %	Total %	X2(1)	Wilk's Lambda	p	Canonical correlation
Model Statement-absent Russian participants							
Details				2.738	.930	.098	.265
Complications				3.429	.913	.064	.296
Proportion of complications	63.6	61.1	62.5	7.661	.815	.006	.430
Model Statement-present Russian participants							
Details				2.610	.933	.106	.259
Complications	17.6	91.3	60.0	4.333	.891	.037	.330
Proportion of complications	76.5	78.3	77.5	16.973	.636	< .001	.603
Model Statement-absent South Korean participants							
Details				2.938	0.925	.087	.274
Complications				3.629	3.629	.057	.304
Proportion of complications	68.4	76.2	72.5	6.998	.830	.008	.413
Model Statement-present South Korean participants							
Details	50.0	77.3	65.0	10.188	.762	.001	.488
Complications	66.7	95.5	82.5	18.093	.617	< .001	.619
Proportion of complications	88.9	86.4	87.5	30.09	.448	< .001	.743

predictors were details, complications, or the ratio of complications or details. We report the “leave one out” classification results. All the relevant statistical information is provided in Table 5.

In the Russian sample, “complications” was a more diagnostic cue to deceit in the Model Statement-present than in the Model Statement-absent condition, supporting Hypothesis 5. In addition, the ratio of complications was the best indicator of deceit, particularly in the Model Statement-present condition, supporting Hypothesis 6. The obtained accuracy rate in that condition was high (77.5%) and shows a positive effect for using a Model Statement even for the Russian participants. For the Korean participants, truth tellers and liars could be correctly classified based on “complications” in the Model Statement-present condition, but not in the Model Statement-absent condition, supporting Hypothesis 5. In addition, the ratio of complications variable was a more diagnostic cue to deceit in the Model Statement-present condition than in the Model Statement-absent condition, supporting Hypothesis 6. The obtained accuracy rate for ratio of complications in the Model Statement-present condition was particularly high, 87.5%. The Model Statement had a stronger effect on South Korean than on Russian participants, supporting Hypothesis 8.

Discussion

As predicted, a Model Statement elicited more information (albeit in South Korean participants only), and strengthened complications and the ratio of complications as a cue to deceit in both Russian and South Korean participants. This means that the Model Statement technique has now been demonstrated to be effective in three cultures: British, Russian, and South Korean, suggesting that this technique can be used cross-culturally.

We predicted that the Model Statement technique would work better amongst South Korean than Russian participants and found evidence for it. However, we predicted this based on the expectation that South Koreans would provide fewer details than would Russians, which did not happen. This means that we can only speculate why the Model Statement technique was more effective in the South Korean than in the Russian sample. Perhaps the South Korean liars did not perform as well as the Russian liars because the South Korean liars may have travelled less than the Russian liars and thus had less experience to draw on. This would explain why the Russians reported more days away in their stories and also why they felt — more than their South Korean counterparts did — that the preparation time was sufficient: If someone has done something many times, it is easier to think of how to lie about it than when someone has to completely make up an unusual event. This could also explain why the South Korean participants included more common knowledge details in their stories than did the Russian participants. The Russians may have embedded some truths from another trip (idiosyncratic details) in their lies, whereas the South Koreans may have been less able to do so. To test this speculation, the number of holidays/trips previously taken should be taken into account in future research.

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The Dynamic Personality: 'Continuity Amid Change'

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Background. In psychology, analyzing the problem of personality is closely connected with the search for a methodology to describe personality in all its diversity. The dispositional approach, which is based on identifying stable personality traits, has resulted today in the dominance of a structural-functional approach. It has the advantage that it allows comparative analysis and the juxtaposition of specific personality characteristics inherent in the underlying construct, but it also has the limitation that it is inadequate for the study of personality as a dynamic structure, one capable of changing as the world around it changes.

Objective. To analyze and systematize the empirical studies of recent years in the field of personality psychology in order to identify and describe the principal trends in the study of the phenomenology of personality, reflecting distinctive features of human existence in the modern world.

Design. The method of research included a meta-analysis of reports (N = 1,149) from three European conferences on personality: the 17th European Conference on Personality (2014), Lausanne, Switzerland; the 18th European Conference on Personality (2016), Romania; the 19th European Conference on Personality (2018), Zadar, Croatia. We also describe the changeability of personality characteristics in the context of the individual's life, on the basis of meta-analytical databases compiled by Roberts et al. (2006) and Wrzus et al. (2016).

Results. The results demonstrate the continuing domination of structural methodology in empirical studies of personality, despite the criticism to which it has been subjected. However, the number of studies of various aspects of dynamic personality processes is growing. Research reflecting the phenomenology of everyday life is expanding, as studies of daily human behavior, life events, and life situations are increasing proportionally. Researchers' attention is being drawn to diverse contexts of life: the environment, culture, relationships. Data collection technologies are changing: Digital devices enable information about personality to be obtained online, tracking all the diversity of personality in different situations, its changeability and dynamism. Meta-data indicate the changeability of personality traits that have long been considered stable: extraversion, emotional stability, conscientiousness, neuroticism, and agreeableness. The dynamics of personality traits are essentially determined by the context of a person's life and vary depending on changes in that life. The continuity of these changes is processual and does not fit into the structural approach.

Conclusion. Modern personality psychology has contradictory trends. On the one hand, especially in empirical research, the traditional structural-functional paradigm for describing the personality remains influential, while attempts are made to improve it in response to criticism. On the other hand, an increasing number of studies are devoted to the study of real people in the real world, confronting the challenges of a changing world. A growing amount of empirical data describing the dynamic personality, changing in time and space, necessitates theoretical understanding and the search for a methodology relevant to the study of the changing personality.

Keywords: personality psychology, dynamic personality, structural-functional approach, processual approach

Introduction

Personality psychology had its start as a scientific field in the 20th century. Throughout its history, a variety of theoretical approaches and explanatory models have been proposed to describe the nature of personality, its structure, the determinants of its activity in various domains of life. Today, along with traditional problems in personality psychology, new issues are arising, one of the most important of which is how the changes in the modern world affect the personality.

The question of the changeability of the personality is not new to science, but there is increasing interest in it as the modern world becomes more and more dynamic.

In 1974, under the notable title *Becoming modern*, the results were published of a large-scale sociological study on changing people in a changing world (Inkeles & Smith, 1974). The authors call the task of explaining how people move from traditionalism to modernity, to a modern type of personality, the most important task of the social sciences. In 1994, the American Psychological Association published a collective monograph, *Can personality change?* (Heatherton & Weinberger, 1994). The works presented there reflect the traditional approach to the problem of “stability–changeability” and mainly follow the research schemata of developmental psychology and age psychology, which trace the changes in intellectual characteristics or personality traits at different age periods. The *Journal of Personality* recently published a special issue (2018) entitled “Status of the trait concept in contemporary personality: Are the old questions still the burning questions?” The editors believe that trait theory remains the most important scientific explanatory and research model. They note that, despite the resounding criticism to which it has been subjected, the trait theory approach is a continuously developing paradigm. The journal’s authors want to improve the traditional paradigm in personality psychology based on trait theory, which focuses on the stability of basic personality structures over time. Modern trait theory research is attempting to answer the question of how traits can be used to understand individuals, to predict their behavior, and to relate individual traits to human behavior overall and other processes. This question remains one of the primary ones: Research based on trait theory offers excellent opportunities for comparative analysis, but is inadequate in describing the psychological phenomenology of the individual unique personality [Giordano, 2017].

Modern personality psychology has reached the level of empirical research at which the amount of published data is tens or maybe hundreds of times greater than the number of works on theoretical interpretation of the results of that research and the development of methodology for studying personality, taking into account changed reality (Grishina et al., 2018).

An answer to the question of how to describe personality in today’s changing world requires theoretical understanding and cannot be obtained only by empirical research, which more and more confirms the need for new ways of describing the personality.

The purpose of this study is to systematize and provide a statistical synthesis of modern personality research so as to identify the main trends in this problem field, including key approaches that dominate the empirical research of recent years.

Method

The main research method was meta-analysis (see Dickerson & Berlin, 1992). The subject of the meta-analysis was scientific reports ($N = 1,149$) presented at the 17th, 18th, and 19th European Conferences on Personality (2014, 2016, 2018), as well as description of normative personality changes (113 samples with a total of 50,120 participants from age 10 to 100) and changes in personality traits in the life context, based on the meta-analytical databases of Roberts et al. (2006) and Wrzus et al. (2016).

Results

The meta-analysis revealed a number of trends characterizing changes in the problem field of personality psychology and approaches to its study.

Predominance of the Structural-Functional Approach to the Description of Personality in the Methodology of Empirical Research

The best illustration of the fact that “the structural approach has taken over the world” (Giordano, 2015) is the dominance of that approach, especially in empirical research, in the materials presented at major worldwide and European conferences on the subject of personality.

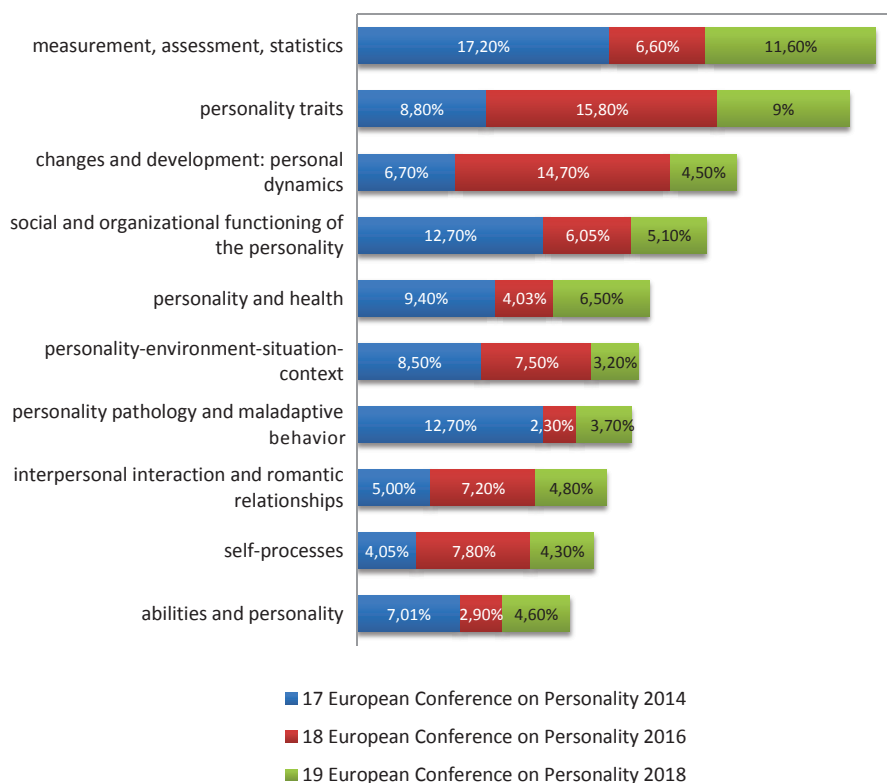


Figure 1. Comparative analysis of the topics of presentations at European Conferences on Personality (2014–2018).

In the traditional areas of personality psychology, almost one fifth of the presentations at European conferences on personality from 2014 to 2018 were devoted to studies based on the use of factor models and personality questionnaires built upon them (Fig. 1).

Figure 1 shows clearly that despite proportional shifts in one direction or another, there is consistent priority for the percentage of submitted reports on personality traits and their intensity, as well as on various statistical models, measurement scales, and personality assessment instruments. Only at the 18th European Conference on Personality (2016), for the first time, was the amount of research on personality development and change almost comparable to the number of studies on personality structure and the intensity of individual personality traits, far ahead of the category “measurement and assessment of personality”. This shift revealed a tendency to reject the perception of the personality as a kind of static entity, in the structure of which individual traits change their intensity under the influence of age or social effects.

Yet at the 19th European Conference in 2018 — the most recent scientific assembly in personality psychology — first place was again taken by reports on the measurement and assessment of various aspects of personality (11.6%). The share of statistical models, measuring scales, assessment instruments, validation of existing studies, new versions of questionnaires, etc. had almost doubled.

Expansion of the Problem Field of Personality Research and Increase in the Proportion of Studies of Everyday Behavior

The reports of the last three conferences (2014, 2016, 2018) allow us to reach a conclusion not only about changes in the topics that are becoming the subject of research to a greater or lesser degree, but also about gradually more differentiated content. Whereas in 2014, the 10 top fields excluded just a little more than 10% of the total reports, topics not included among the top 10 had reached 25% in 2016 and 34% in 2018.

Overall, comparing the reports of the three recent European conferences, we can see how the interests of researchers are changing, primarily shifting their attention to phenomena that are as close as possible to a person's real existence, to everyday experience (Fig. 2), the experience of prosocial behavior, innovative behavior, economic and cooperative behavior, organizational behavior and behavior in the family, relationships, and pleasant daily experiences (positive emotional impressions and maintaining relationships).

In 2016, the key approach to personality research was Sam Gosling's entreaty: “It's time to study real people in the real world” (2016). The increase in the proportion of studies of the individual's daily behavior and everyday experience clearly demonstrates that this call has been heard and that the psychology of everyday life is becoming one of the key areas of knowledge about personality.

Interest in the psychology of everyday life has been most apparent in studies of the personality in context — the context of life events, situations, relationships. The diverse contexts of everyday life reflect specific aspects of the reality in which a person lives: family, work, social environment, culture, relationships. The studies presented on this range of problems, as well as studies of behavior or daily experi-

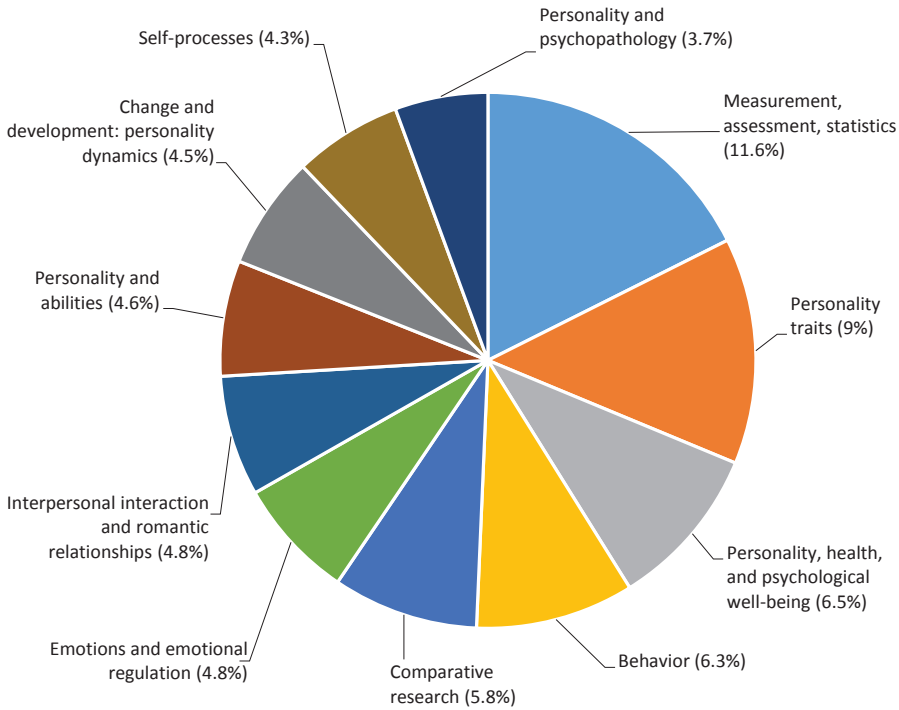


Figure 2. Distribution of topics at the 19th European Conference on Personality (July 17–21, 2018, Croatia)

ence, indicate an attempt to shift from describing ideal models of personality to understanding personality through its everyday existence, through the world of human life.

At the same time, data-gathering technologies are changing. The appearance of mobile digital devices and their technical potential for capturing an individual's everyday activities make it possible to measure individual differences at unprecedented levels of detail and scale. Smartphones are a new source of environment-based behavioral data about a person, significantly expanding the range of data obtained, contributing to a much deeper immersion in the person's life space.

Although the methodology for constructing such studies has not yet been fully developed and has limitations, network approaches to obtaining personal data and searching for stable personality constructs are already being presented.

Thus, there is a paradoxical situation in modern personality psychology. On the one hand, contemporary reality orients toward the study of personality in line with the challenges a person faces in everyday life. The phenomenology of the personality's phenomena of being is expanding; the contextual streams are multiplying along which the life of the contemporary individual flows; everyday life and experience are changing. On the other hand, there is still reliance on theories and methodologies developed in the 20th century, when many of the personality phenomena that are today the focus of researchers' attention for all practical purposes did not exist.

Increased Empirical Data Reflecting the Changeability of Personality Characteristics

One of the grounds for criticism of traditional ideas about the stability of personal characteristics is empirical data about how these change during the lifespan. In modern psychology, extensive material has accumulated about the dynamics of change, even of the most stable and basic personality traits.

For example, the variability of the “Big Five” attributes in youth and middle age mainly pertains to increased agreeableness, conscientiousness, emotional stability, and social dominance (Lucas & Donnellan, 2011; Roberts & Mroczek, 2008). At older ages, research shows the opposite picture, with a gradual long-term decline in agreeableness, conscientiousness, emotional stability, and openness (Berg & Johansson, 2014; Kandler, Kornadt, Hagemeyer, & Neyer, 2015; Lucas & Donnellan, 2011).

Roberts, Walton, and Viechtbauer (2006) presented the dynamics of personality change across the lifespan by collecting what was at that time one of the largest meta-analytical databases of longitudinal personality traits in adults: 113 samples with a total of 50,120 participants (ages 10 to 100). Meta-analysis of the trajectory of normative changes in trans-situational personality characteristics demonstrates

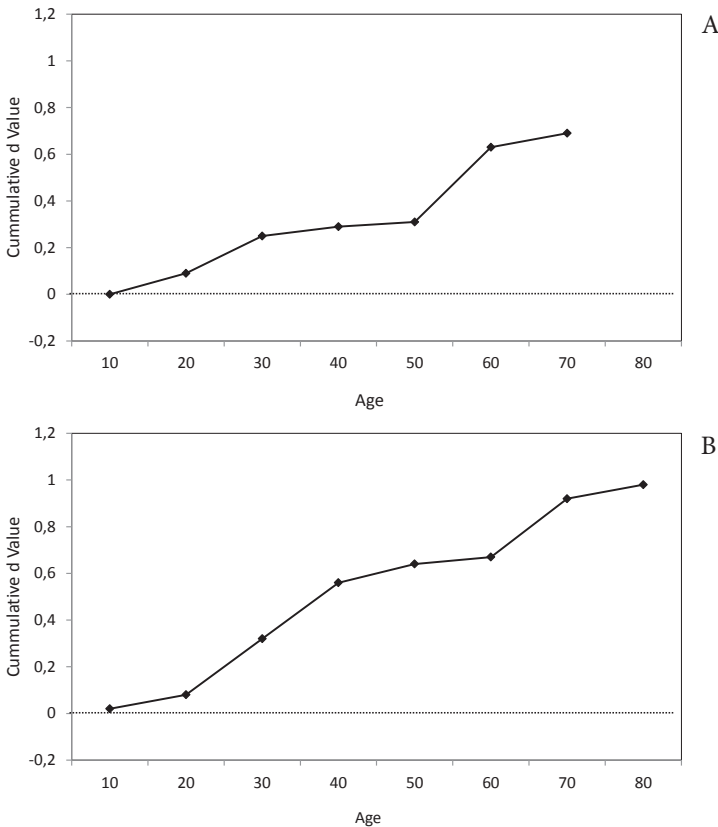


Figure 3. Cumulative *d* scores Agreeableness (A) and Conscientiousness (B) across the life course. (Roberts, Walton, & Viechtbauer, 2006, p. 15)

that four of the six measured characteristics change significantly in middle age and late adulthood.

Thus, the dynamic of change in social vitality (the first aspect of the “extraversion” attribute of the Big Five, NEO, California Psychological Inventory) declines with age. However, this change is complex. Standardized mean-level changes show a small but statistically significant increase ($d = .06, p < .05$) up to age 20, and then two stages of significant reduction: at the age of 22 to 30 ($d = -.14, p < .05$), and also at age 60 to 70 ($d = -.14, p < .05$). The second component of extraversion, social dominance, shows a statistically significant increase in adolescence ($d = .20, p < .05$) and the college years ($d = .41, p < .05$), as well as two decades of young adulthood ($d = .28$ and $.18$, respectively, $ps < .05$).

Despite the progressive rise in agreeableness across the lifespan (Fig. 3A), the main effect size is from age 50 to 60 ($d = .30, p < .05$). For the factor “conscientiousness” (Fig. 3B), the dynamic of change affects not only ages 20 to 30, but it also increases significantly at ages 60 to 70 ($d = .22, p < .05$).

The pattern of changes for emotional stability is close to that for conscientiousness. However, it can be clearly seen that the dynamic of change also continues from age 50 to 60 ($d = .06, p < .05$). Openness to experience develops actively in adolescence and the college years ($d = .37, p < .05$); then the values for this attribute stabilize, and statistically significant values decline in old age ($d = .19, p < .05$).

Thus, numerous studies demonstrate that personality does change during adulthood. Moreover, continuous changes, decreasing or increasing the intensity of various personality traits, over time also include trans-situational traits.

Increased Attention to Contextual Factors That Influence Personality Change

With the development of behavioral genetics, attempts were made to explain personality changes by genetic factors. Recent literature notes that the relationship of psychological attributes to genetic dispersion is unable to explain as much as 80% of the individual variability of personality characteristics across the lifespan. Environmental influences contribute much more to personality changes.

The dynamic of normative changes in self-esteem (Wagner et al., 2014) is characterized by a gradual increase from adolescence to middle age, reaching a peak at about age 50–60, and then decreasing. However, longitudinal studies show that the rise in self-esteem varies considerably according to the specific trajectories of life. For example, people with high socioeconomic status show greater self-esteem than those with low socioeconomic status, at each stage of life (Wagner et al., 2014).

The context and situation have a substantial impact on personality change.

Figure 4 shows changes in conscientiousness in relation to the context of a person's life.

The variability of change and its dependence on context become especially evident when the data is analyzed with reference to stability of the context in a person's life, whether the situation is stable or changes over a long period.

Figure 4 shows the size of the effects, depending on the variability of the work situation and leisure activities. If there are differences in work conditions (Fig. 4A,

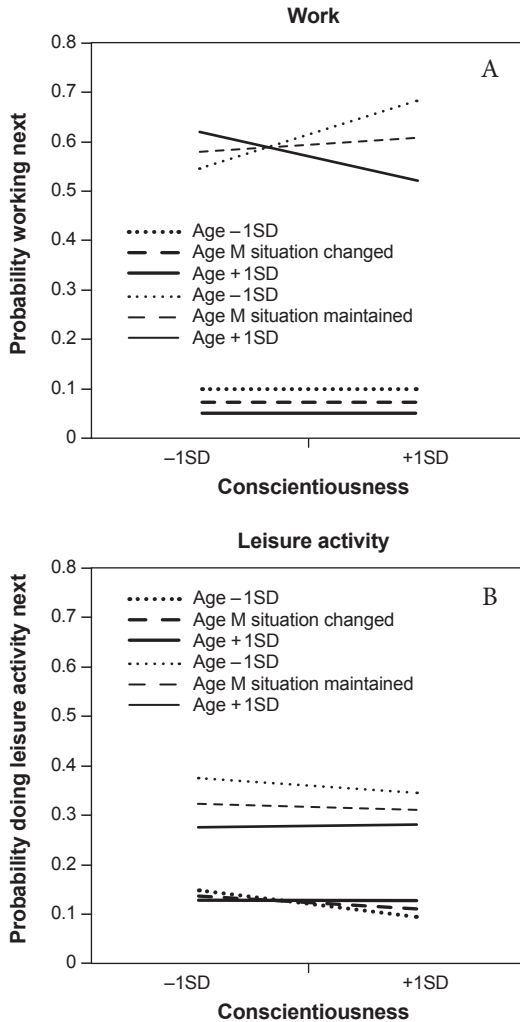


Figure 4. Trait-age interactions regarding the proximate occurrence of different situations at the next assessment depending on whether participants were in the same (= situation maintained) or different situation (= situation changed) before: (A) Conscientiousness and age predict doing work activities, (B) Conscientiousness and age predict engaging in leisure activities (Wrzus et al. 2016).

lower graph), their change demonstrates that differences still exist (cumulative d effect) in the level of conscientiousness within the age range, equal to one standard deviation. At the same time, if the situation at work is stable or conditions remain similar (Fig. 4A, upper graph), the difference in conscientiousness increases (cumulative effect increases in the range of +1SD).

Active participation in leisure activities is also related to the level of conscientiousness, but in a different way. "Situation changed" (Fig. 4 B, lower graph) scarcely impacts the cumulative effect of differences in conscientiousness depending on the degree of involvement in leisure activity. Meanwhile, situations that are similar for a long time contribute to reducing the differences in the manifestation of conscientiousness between people (in the range of +1SD (Fig. 4 B, upper graph).

These examples clearly demonstrate how personality traits change depending on the context.

To this can be added a great deal more empirical data describing the dynamic, changing nature of personality, including the short-term and diverse effects of intrapersonal variability. For example, personal characteristics change depending on the time a person falls asleep and wakes up, hormonal influences, distinctive features of communication — social, emotional, etc. — and psychological well-being resulting from the quality of social interactions.

Discussion

A dynamic approach to the understanding of personality has become an alternative to the structural-functional system of global, decontextualized, dispositional characteristics (Ashton & Lee, 2007). The changeability of individual characteristics demonstrates the need for dynamic, processual approaches to a personality that is constantly changing yet maintaining its identity (Rubinstein, 2003). Thus, individual models of changeability are key markers in describing the structure of personality. They become the basis for a “descriptive taxonomy” (John & Srivastava, 1999, p. 103), in which the object being described is intra- and interpersonal changeability.

Recognition of the dynamic nature of personality entails a number of methodological issues. The first of these involves development of a conceptual instrument that describes personality change. The second is the definition of an approach that can “capture” the dynamics of personality changes. The third is the development of psychological tools for assessing the personality changes themselves, their dynamics and systematization (conceptualization)

Concerning the first point, it is important to note that in the scientific literature the terms “change”, “development”, and “changeability” are quite often used synonymously. This is partly due to the lack of a precise distinction between psychological definitions of the concepts “development” and “change” as presented in philosophical and psychological literature. Any development obviously must involve change (structural or functional). Development is a special form of change, but these concepts are not completely identical: The concept of “change” has a wider scope than that of “development”, and not every change signifies development. An essential characteristic of change is that it is an alternative to stability. Development sets a vector of change. The concept of change does not reflect the direction of the changes. It characterizes the real phenomenology and processes in which the individual is involved, their mobility and fluidity.

Similarly, the concepts of change and changeability are different. The concept of changeability presupposes instability, variability of some characteristics or functions, fluctuations in the system. In psychological research, the study of changeability of the personality is virtually reduced to analysis of the variability of attributes at the level of situational changes or group comparisons (age, gender, occupation). In this sense, both development and changeability emphasize the dynamism of the personality, but do not reflect its processual nature.

L. Hjelle and D. Ziegler, in their analytical review, introduced the parameter of “changeability–unchangeability” into their system of basic principles underlying theoretical approaches to understanding personality. The authors’ various positions reflect their answer to the question, to what extent is an individual able to change

fundamentally during the lifespan (Hjelle & Ziegler, 1976). The processual nature of change is emphasized not by variability or fluctuation, but by the transition to something fundamentally different (a change in structure, state, or function). Personality changes involve not only developmental processes, but also origins, formation, growth, conversion/transformation, etc. They are by nature continuous, which permits us to surmise that it is the processual approach that should become the basis for describing personality as a dynamic structure.

The processual approach (Kostromina & Grishina, 2018) is based on the principle of changeability of the personality, but does not reduce it exclusively to variability. It emphasizes the incompleteness of the action, the openness of the system, its “fluidity”, the fundamental possibility of transforming the personality through the lifespan. The main subject of study in the processual approach is the phenomenology of change.

The question of instruments for psychological evaluation of the processes of personality change remains open. Research on personality changes is commonly based on the longitudinal principle of measuring personality characteristics, which permits description of their dynamics over time. However, this research design, as a rule, does not address the distinctive features of individual experience, life events, which are the most likely factors in personality changes. Even more obvious problems arise in connection with the influence of context, the role of which is emphasized in many studies. Perhaps the potential of digital devices for capturing personality changes in the short-term and medium-term spans of daily activity may be considered as a priority means of studying personality dynamics in real life, compared to traditional methods.

Conclusion

The recognition that personality is in the process of constant change is characteristic of contemporary psychology. Yet the structural-functional model of describing personality, despite recognition of its limitations, retains its dominant influence, especially in empirical research.

At the core of the processes of personality change is the continuous interaction of the individual with the world. Personality is sensitive to the challenges of the individual's life context, so personality research that does not take this context into account may turn out to be irrelevant. In examples given to demonstrate the influence of different contexts on an individual's personality traits, in fact it is individual fragments of the overall life context that are presented, without considering their significance with regard to other types of activity.

The need to study environmental and contextual influences is all the more evident in today's changing reality, the challenges of which also become sources of personal change. Traditionally, changes through a person's lifespan have been studied mainly as a result of age factors or intrapersonal dynamics. The situation of human existence in the world today forces a return to Kurt Lewin's concept of life space, which described people's existence in a field of action of forces that stimulate and restrict their activity, creating tension and points of bifurcation. It is these “zones of tension” that are the sources of change in the phenomenologies of personality, leading to changes in the personality, its life space and life path.

Of particular importance for analyzing personality change is the study of “self-processes” of the personality, related to the potential for self-development and self-change, the study of activity that goes beyond the bounds of adaptive activity as traditionally understood.

Thus, dynamic and integral psychological concepts in describing the interaction of a person with the world, concepts that address the person's integrality, become highly significant. The search for units of such a description, units that correspond to the principles of a dynamic approach to the study of personality, is the most important methodological task.

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Concerning the Vocabulary on Personality in Russian Psychology: “*Subjekt*” vs. “Personality”

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Background. In the context of the current globalization of culture and civilization, international science has become global. Formation of a global science, able to comprehend the emerging global world, is impossible without the full integration of “local” scientific traditions and systems of social and humanitarian knowledge, which are new to the Western-centered mainstream. This situation challenges “local” psychological schools, and at the same time opens up new perspectives for their development. A prerequisite for integration is overcoming language barriers. For Russian psychology, the language factor is of special significance, because the conceptual apparatus here has formed based on the Russian language, and translating Russian texts into foreign languages requires not only language skills but also hermeneutics in relation to the conceptual apparatus.

Objective. Of special difficulty is the translation of the concept of “*субъект*” (*Subjekt*), which is central to the Russian psychological tradition. Like the concept of “Personality,” it relates to the sphere of integral aspects and manifestations of human existence. The question of how these two concepts relate, remains acutely debatable, despite the fact that the Russian scientific community has already spent considerable efforts on the methodological elaboration of each of them. This makes it difficult for scientists to communicate and impedes translating scientific texts. This article concentrates on the problem of translating the concept of “*Subjekt*.”

Conclusion. Difficulties encountered by foreign colleagues are analyzed; the different interpretations of the concept in contemporary Russian psychology are highlighted. A solution to the problem of translation of the concept is proposed.

Keywords:
vocabulary of
science; scientific
translation;
Russian school
of psychology;
subject; *Subjekt*;
personality;
global science;
Ananiev’s theory;
Yaroshevsky’s
categorical system.

“The categorical, object-constituting, language of disciplinary communities is, like all language, historical in character... Every one of these terms has a history within the discipline and a history outside the discipline, and often the latter begins before the discipline existed.” (Danziger, 2013, p. 836).

Introduction

The current development of culture and civilization demands the transition from the monocentric structure of psychological science, where the Western mainstream has traditionally dominated, to a polycentric structure (Danziger, 2013; Bhambra, 2014; Jahoda, 2016; Zhuravlev et al, 2018a, b). In the context of the general globalization of culture and civilization, the formation of a global science, able to comprehend the emerging global world, is impossible without the full integration of “local” scientific traditions and systems of social and humanitarian knowledge (Marsella, 2012; Bhambra, 2014; Vessuri, 2015; Hwang, 2016; Mironenko, 2017b; Zhuravlev, Mironenko & Yurevich, 2018a,b). The formation of a global psychological science challenges “local” psychological schools, which are new to the Western-centered mainstream, and opens up new perspectives for their development (Mironenko, 2015; Mironenko & Sorokin, 2015). Integration requires special efforts. A prerequisite for integration is overcoming language barriers, both in terms of the language as a whole and in relation to the conceptual system (Mironenko, 2014, 2017a).

In the context of the current integration of international psychology, the position of Russian psychology is unique. On the one hand, it is radically different from schools which previously were not part of the West-centric tradition of international science, but are now entering the mainstream as “developing” psychologies of Asian and African origins. The Russian school has always been a part of international science since the history of psychology as an academic discipline began. It formed in the late 19th and early 20th centuries, in the period when the main scientific schools of the 20th century were in the making. Russian psychology has contributed much to the development of world science and has noticeably been influencing Western trends. The international recognition of its founders (Behterev, Berdyaev, Pavlov, Soloviev, and others) and frequent citation of Lev Vygotsky by foreign colleagues indicate the high level of interest that it attracts in the international academic community.

On the other hand, Russian psychology is not part of the contemporary West-centric mainstream. Because of its unilateral¹ isolation during the Soviet period, the theories and methodology developed in our country remain poorly known beyond its borders.

The language factor is of special significance. This is not only because most Russian psychologists speak and write only in Russian, but also because the con-

¹ The relative isolation of Soviet psychology since the 1930s was unilateral. Soviet scientists could familiarize themselves with the development of science in the West either directly or through reviews. We can be certain that our scientists knew substantially more about Western science than their foreign colleagues knew about Russian science.

ceptual apparatus has formed based on the Russian language, and even translating Russian texts into foreign languages requires not only language skills but also hermeneutics relative to the conceptual apparatus (Mironenko, 2014). Developments in the Russian psychology of the second half of the 20th century began to disseminate into international scientific circles in the late 1970s—first of all, through the translations of the works of A.N. Leontiev (e.g., Leontiev, 1973, 1978, 1981). Despite the interest his Activity Theory (AT) aroused in the international scientific community (Mammen & Mironenko, 2015), foreign colleagues were faced from with substantial difficulties in their quest to comprehend the Russian theoretical approach. The main predicament was the conceptual apparatus, the language, which was very different from the one used in international science.

The problem of understanding the vocabulary of Russian psychology

It was clear that the scientific potential of the Russian school would not be realized by English-speaking users if sufficient attention was not given to clarifying the meanings of the fundamental terms of AT. Appropriate attempts were immediately taken. An important example of efforts to comprehend the vocabulary, was Tolman's "The basic vocabulary of Activity Theory" (1988), which provided definitions for various terms used in Activity Theory literature. Tolman's work is still referred to in the 21st century (Ballantyne, 2002). Nevertheless, problems related to understanding the terminology of Russian psychology remain relevant to the present day.

Terminology was a matter of principal importance in the Russian psychological school. The conceptual apparatus was sophisticated and subtly crafted in the cause of the paradigmatic development of Soviet psychology². In the 1970s and early 1980s, specially organized methodological discussions took place in Soviet Psychology, which resulted in the preparation and publication of thesaurus dictionaries edited by leading methodologists. The most popular was *A Concise Psychological Dictionary*, which was edited by two luminaries of scientific methodology, academicians Petrovsky and Yaroshevsky (1985). This dictionary was meant for professional use only, more for clarifying the difficult and contentious issues which abounded in the AT discourse than for introductory reading. Working with this dictionary required substantial knowledge of AT. That is why the Dictionary, although translated into English (Petrovsky & Yaroshevsky, 1987), was of little help for English-speaking colleagues, and was hardly ever used in the mainstream.

The source often referred to by translators, *Activity, Consciousness, and Personality* (Leontiev, 1978), is different. It is a great example of a *popular* book written by an outstanding scientist. It was printed on a large scale, and there are good reasons to believe that the book was meant to promote Soviet psychological science abroad, which was a matter of importance for the Soviet ideology. The flip side of its accessibility to the general public's understanding is that its presentation of AT ideas is lax and over-simplified; difficult moments and contentious issues are simply omitted.

² The view that Soviet psychology in its development has reached the level of a paradigm is not universally accepted; however, it is shared by a large part of Russian academic community (Zhuravlev & Koltsova, 2008)

Tolman based his “Vocabulary” on English translations of two other Russian books: Leontiev’s *Problems of the Development of the Mind* (1981) and *Dictionary of Philosophy* (1984). The first one was meant for professionals, and presumes that the reader is well acquainted with the AT apparatus. Many details are omitted as they are presumed obvious to the reader. The definitions of the basic terms used need supplementary explanations and are not complete enough to make a dictionary for the international community. As for the *Dictionary of Philosophy*, it was written for the public at large, and thus was not used by Soviet psychologists; it was not meant for professional use.

It became clear that interpretation of the Russian conceptual apparatus is not possible without relying upon adequate published sources, and taking into consideration the oral tradition, which was an important characteristic of psychological education in the Soviet period. There were no tutorials and textbooks for future psychologists. Their studies were based on monographs and papers which were written in “Aesopian” language, due to the uptight censorship of the press by the authorities. The texts of our classics require hermeneutics even from a Russian reader, and require learning by reading together with the teacher. That knowledge had to be transmitted directly from teachers to students.

Of special difficulty is the translation of the concept of “субъект” (*Subjekt*), which is central to the Russian psychological tradition. Thus, it was not by chance that Tolman in his “Vocabulary” did not offer a translation of this concept. The problem is getting worse due to the ambiguous interpretation of the concept in contemporary Russian psychology.

The concept of “Subjekt” in contemporary Russian psychology

Psychological research in contemporary psychological science focuses on Personality and “*Subjekt*”. The vast majority of publications today are addressed specifically to the sphere of integral aspects and manifestations of human existence, and thus to the subject area denoted by the above two concepts (Grishina, Kostromina, & Mironenko, 2018; Valsiner, 2017). At the same time, despite the fact that the Russian scientific community has already spent considerable efforts on the methodological elaboration of both concepts, the question of their relationship remains acutely debatable, which makes it difficult for scientists to communicate, and creates difficulties in understanding scientific texts. In the context of the divergence within the contemporary professional community of psychologists in Russia, this becomes a problem worthy of attention.

The concept of “*Subjekt*” (and “*Subjektnost*” for a quality to be a *Subjekt*) refers to the work of Sergey L. Rubinstein, whose main idea was that the Psyche is a procreation of the active interaction of the individual with his/her environment. *Subjekt* means somebody who is choosing and pursuing his/her own aims, serving his/her own purposes, a self-determined and self-actualizing agent. Rubinstein did not delimit his work to dealing with the content of the concepts of “*Subjekt*,” Personality, and Human Being. To be a personality and a “*Subjekt*,” for him, are properties inherent to the human being. Rubinstein calls a human a “*Subjekt*,” when emphasizing the initiating, self-determined nature of human activity, and calls a human

a Personality, when emphasizing human sociality. The development of the Russian psychological tradition, however, required clarification of the question of the relationship between these concepts. Almost all Russian methodologists, including the most brilliant ones like Abulkhanova-Slavskaya, Antsyferova, Brushlinsky, and others, addressed this question. (*Problema sub'yekta...*, 2000)

A comprehensive review of the different opinions on this point is given in a monograph by Morosanova and Aronova (2007), so we confine ourselves here to the general conclusion that there is no consensus in the literature regarding the following points:

- Whether and how the contents of these concepts overlap: The opinions range from the assertion of a complete absorption of one of the concepts by the other one, to attempts to absolutely dissolve their content;
- How the levels of these concepts correlate: Both concepts are assigned to a “high” level in the structure of the psyche; however, there are frequent attempts to put one above the other, and in particular, to present one as the highest level of the other.

An essential factor preventing, in our opinion, a consensus on the question of the relationship between the concepts of *Subjekt* and Personality, is that the context for the definition and distribution of the content of these concepts is not clear. All concepts exist and can be comprehended and correlated with others only in the context of a certain conceptual system. The literature suggests that each concept denotes a subsystem in the mental organization of a human being. Therefore, we assume, the solution to the question of the relationship between the concepts of “*Subjekt*” and “Personality” necessitates the definition of an integral theoretical model of a human’s mental organization, which provides the basis and structure within which the concepts can be analyzed and correlated.

There is one example in the literature which states the problem of correlating the concepts of “*Subjekt*” and “Personality” in these terms. This is the theory of Boris G. Ananiev (Ananiev, 1968). Ananiev, following Sergey Rubinstein, uses the notion of “human” as his initial baseline category. “Human” for psychological science is an objective category, which directly relates us to the physical reality. The concepts “*Subjekt*” and “Personality” refer to the subject area of psychology; they are elaborated by psychological science and embody not only (and, perhaps, not so much) objective reality, but also theoretical models, logic, and the apparatus of science itself. Taking into account modern methodological pluralism, when trying to correlate these concepts, we find ourselves in a kind of hall of mirrors, in a situation of infinite multiplication of reflexive constructions, with no way out. The category of “human” takes us out of the looking-glass into reality, and provides the potential for not just comparing one theory with another theory, but with reality, thus allowing the possibility of its empirical testing.

Ananiev’s theory is based on a holistic model of human psychological development, which incorporates the categories of “*Subjekt*” and “Personality”, and provides the context in which these categories clearly relate to each other (Ananiev, 1968).

Categories of “Subjekt” and Personality in Ananiev’s theory of human development

Human development is represented by Ananiev in three expressly separate aspects:

- The ontogenetic evolution of psycho-physiological functions (the human as a natural being - *individual*);
- Life course, biography – the history of the *personality* or *person* (the human lives a social life in a cultural context);
- Development of man’s activities and history of his/her formation as a *Subjekt* (agent) of labor, cognition, and communication (the human is civilized; he acquires the skills necessary for civilized consumption and production).

Thus, human development bases itself on the confluence of three different contexts: Nature, Culture (social life) and Civilization, each having its own laws and mechanisms.

An *individual* as a representative of *homo sapiens* has the appropriate genotype and falls within the range of phenotypic variability. The two classes of primary *individual* properties are: a) age and sex characteristics; and b) individual typological features of a biological nature (physique, neuro-dynamic properties). Based on the interaction of the primary properties, secondary *individual* properties are formed: a) the general dynamics of psycho-physiological functions and b) the structure of organic needs. The integration of these *individual* properties results in the person’s temperament and the natural aptitudes. The basic form of development of the *individual* properties is ontogenetic evolution, which proceeds according to a certain phylogenetic (species) program. This program does not remain universal and unchanged, but is constantly modified because of individual variability; its range continuously grows, both in the course of the social history of humankind and in the process of individual ontogenesis, because of the impact of the personality’s social history.

The starting point for the development of *personality* is the person’s status in society; that is, the social, economic, legal, and political characteristics of the family, and the status of the community (group, subculture) in which the baby was born and is developing. Based on that status, a system of social roles and value orientations is formed.

The properties of the primary *personality*—status, social roles, and value orientations— form in interaction with the social environment, and are internalized in the process of socialization. Based on the primary *personality*’s properties, the secondary *personality*’s properties form the motives and dispositions for social behavior.

The integration of the *personality*’s properties results in the person’s character and general dispositions. The main form of personal development is the life course of the person, his/her social biography.

The initial properties of *Subjekt* are consciousness (the capacity for reflection on objective reality) and activity (the capacity for transformation of objective reality). We may see thus that this line of human development is assumed to begin later in life than the first two, assessed above. Ananiev does not give us a concrete answer as to when. However, in the 1980s I participated in a number of discussions on that issue, where it was generally agreed that the beginning of the *Subjekt* could not be

earlier than when speech appears, since, in the Soviet psychological tradition, consciousness was assumed to be inseparably connected with speech.

Subjekt is characterized not only by a person's own properties, but also by the knowledge, skills, and technical means of labor which he masters. The integration of *Subjekt* properties comes from human creativity, manifested in the person's abilities and talents. The main form of the development of the *Subjekt* is the history of human productive activity, starting from the early stages of education and training.

The concept of *individuality* appears central in this theoretical model. The name "theory of individuality" stuck to the latter. *Individuality* is not just individual uniqueness—what makes one human being different from all others—or individual differences, which we may observe when comparing people. *Individuality* is a holistic unity, the integration of all levels and aspects of human organization, which is the result of the confluence of natural and socio-cultural human development.

Individuality begins to take shape from the first moments of human life. A baby initially has certain biological characteristics. From birth (if not earlier), it is immersed in social relations, since all its needs can be satisfied only through the process of interaction with the social environment; its life is socially and culturally mediated. The caregivers of the infant have their own ideas (enshrined in culture) on how the infant should behave, and while caring for the child, they purposefully assume the corresponding "social roles" vis-à-vis the types of behavior of the infant. Those can be very different. In some cultures, the mother would never part with the baby, and would satisfy all his/her needs immediately; in others, parents train the child not to bother them too much, and to spend considerable time alone.

Socially desirable forms of behavior may more or less correspond to the natural inclinations of the infant, or may contradict them; therefore, the child's secondary *individual* and *personal* properties are the result of the confluence of biology and culture. The result of such integration of biology and culture is the human's individuality. Having begun to form from infancy, individuality goes through a long process which never ends, because throughout life, a human experiences challenges both from the social requirements of new activities and new living conditions, and from the side of biological changes, in particular in older age, as a human is subject to aging.

The process of the formation of individuality can be more or less successful. Not everyone can become a truly developed individuality, which gives human personality the property of integrity, and provides good self-regulation and stabilization of psycho-physiological functions with aging, as well as the harmonious interrelation of human tendencies and potencies. A well-developed individuality manifests itself in a holistic self-concept and integrated self-consciousness, a pronounced general individual style of activity. Ananiev considered the most important practical task of psychology to be psychological support and provision for the process of becoming a harmonious individuality.

In other words, it is possible to present the process of the formation of individuality as follows. From birth, the human inherits a number of developmental programs: biological, inherent in his/her genotype; and cultural and educational

programs, rooted in his/her society. The focus of the process of individual development, according to Ananiev, is the integration and coordination of these programs of various origins into a single harmonious whole: the structure of individuality which embodies the unity of all levels of human organization. Individuality is primarily a harmony of human properties, their coordinated unity. There is no Universal Law of human development; there are only a number of relatively independent factors, and their influence is mediated and integrated by the individuality of each human being. It is the individuality, the uniqueness of the personality, that defines the vector, direction, and route of human development.

In mature age, the individuality factor becomes dominant. It constitutes the holistic structure of the human being, bringing into harmony one's tendencies and potentials, and determining the structure and development of a person's psychophysiological functions. Ananiev derives the substructure of an "*individual*" from his/her biological characteristics; that of a "*person*" from specifically sociological characteristics; and that of a "*Subjekt*" from the tools created by civilization. Biology, society, and civilization sprout into the human being, and tend to form his/her psyche, each in accordance with its own laws. Moreover, individuality constitutes the integrating foundation and nucleus, vector, and law of human development.

Ananiev's theory of individuality sounds similar to Gordon Allport's ideas on *proprium*. However, Allport regards *proprium* as a purely psychological phenomenon, and his seven characteristics of a mature person, who has a well-developed *proprium*, relate to the psyche. Ananiev sees a human being in flesh and blood, with his/her personality's unity and integrity manifest not only in the soul, but also in physical reality, in the organization of the body. This makes Ananiev's approach unique (Mironenko, 2013).

Ananiev considered the relationship and interaction of the "*Subjekt*" and the "Personality" in the context of the holistic theoretical model of human development. In the context of his theory, a clear and definite answer is presented to the question of how the meanings of the concepts correlate:

- The personality originates and exists in the context of the interactions between the human individual and society, in the context of culture; the *Subjekt* exists in the context of civilization and is rooted in productive activities³.
- Specific psychic qualities attributable to each of the concepts are described.

Is it possible, however, to expect that the contemporary psychological community will adopt this answer to the question of the relationship between the concepts of "*Subjekt*" and "Personality?" This is highly unlikely. The differences in the contents of the concepts are polemically pointed out at the price of the obvious narrowing of their meanings; moreover, the meanings clearly differ from the comprehension established in modern Russian psychology.

Notably, the properties that modern researchers are primarily interested in – properties which are attributed both to the *Subjekt* and to the Personality, and which scientists today are trying to "divide" between the concepts of self-regula-

³ It is interesting that in the theory of Ananiev the differentiation of culture and civilization is clearly traced, about which culturologists began to speak only at the end of the twentieth century

tion, self-consciousness, etc.—Ananiev considers to be beyond the limits of both the Personality and the *Subjekt*. These properties are the result of the integration of the Personality and the *Subjekt* in the process of individual development. However, the methodological soundness of Ananiev's theory, its logic and empirical evidence, deserve attention in the context of contemporary discussions about the relationship between the concepts of "*Subjekt*" and "Personality." The conclusion which results through considering the theoretical model elaborated by Ananiev is the need to change the traditional statement of the problem of how to relate the concepts. Both the concept of "*Subjekt*" and the concept of "Personality" in modern scientific language denote a holistic human psychic organization. Therefore, it is necessary to abandon attempts to consider those as subsystems of a certain whole, and to "divide" mental and other properties between the *Subjekt* and the Personality. These are two aspects of human psyche.

The notion of "Personality" is generally used in international science to designate a holistic human psychic organization. In this regard perhaps the narrower meaning of the concept of "Personality" in Russian Soviet psychology, which focused on the social functions of personality, should be mentioned, because the notion of "*Subjekt*" occupies part of the semantic space which Western psychology has given to the "Personality."

Seeking a Solution: Conclusion

In contemporary Russian psychology, the concept of "Personality" is close in meaning to the Western context. The coexistence of the notion of "*Subjekt*" along with it makes it difficult to translate Russian texts, and hampers the integration of Russian psychology into the context of the international science.

The concept of *Subjekt* (and "*Subjektivität*" as a qualification to be a *Subjekt*) refers to Rubinstein. *Subjekt* means a self-determined and self-actualizing agent. The proper language equivalent might be the German word "*Subjekt*," which was actually used by Rubinstein, who was educated in Marburg as a German philosopher. The active *Subjekt* in German contrasts to the passive Objekt.

Today "*Subjekt*" is often translated as subject, and "*Subjektivität*" as subjectivity, which greatly distorts the meaning of the text; moreover, it deprives the text of any meaning, since in English the meaning of the word "subject" lacks focus on the active role. On the contrary, a subject is something or somebody which is exposed to somebody else's actions. For example, we can discuss a subject; we use subjects in our research... Such a translation, I believe, is unacceptable for Russian psychological texts. While seeming to conform to the original, such a translation is a travesty.

Is there a solution for this very important problem? Should we do without the concept of "*Subjekt*" or replace it with some other category?

An interesting case is the well-known categorical system of Michail Yaroshevsky, where the concept of the *Subjekt* is not used (Yaroshevsky, 1971). Yaroshevsky was one of the main theorists in the Russian psychology of the second half of the 20th century. He laid the foundations for the Russian school of the history of psychology. All psychological education in the USSR, since the first faculties of psychology opened in Moscow State University and in Leningrad State University in 1966, has been grounded on his books on history of psychology.

Yaroshevsky considered the development of psychology as initially multi-paradigmatic and fragmented. Thus, the history of psychology should serve as the “memory” of psychological science, linking together fragmented knowledge. His theoretical model of the multilevel categorical system (Yaroshevsky, 1971) aimed at the integration of psychological knowledge through revealing the connections and interrelations between different fields of psychology.

Table 1
Yaroshevsky’s categorical system of psychological science

Types of categories	Noosphere							Psychosphere
	Substantiality	Directionality	Activation	Cognition	Subjectivity	Eventfulness	Reality	
Sociocentric	Human being	Ideal	Freedom	Intelligence	existence	complicity	Oecumena	
Meta-psychological	Personality	Value	Activity	Consciousness	Feeling	Communication	Personosphere	
Basic psychological	Self	Motive	Act	Image	Experiencing	Interaction	Situation	
Proto-psychological	Individual	Need	Reflex	Sensation	Affectivity	Coexistence	Subject-relation	
biocentric	Organism	requirement of an organism	Metabolism	Signal	Selectivity	Synergy	Environment	
Biosphere								

The core of Yaroshevsky’s model consists of seven “basic” categories: Self, Motive, Action, Image, Experiencing, Interaction, and Situation (*Table 1*). These are psychic phenomena. Their main characteristic is their subjective, introspective nature. The categories of the meta-psychological and proto-psychological levels are not psychic phenomena, but psychological, constructed by psychological science in the process of its development, and constituting the subject of psychological science. Meta-psychological categories connect psychology to the social sciences and humanities, and proto-psychological to natural sciences. Each of the basic phenomena can be traced “downwards” and “upwards”; e.g., Organism (biological); individual (proto-psychological); self (basic); personality (meta-psychological); and Human being (Societal). Here, instead of the “*Subjekt*,” the meta-psychological category of Activity relates to “Personality”. Thus, Personality becomes a synonym for the “*Subjekt*.”

In contemporary international science, concepts similar in meaning to “*Subjekt*” have appeared, such as Agency (Gallagher, 2000; Haggard & Eitam, 2015) and Actorhood (Frank & Meyer, 2002; Meyer, 2010), which also emphasize the active nature of the individual. Note that the emergence and growing popularity

of these concepts in world science testifies to their relevance in the context of the developments of the Russian school, where the concept of the “*Subjekt*” and the related issues have been elaborated for nearly a century.

Should we use one of these notions when translating the “*Subjekt*”? I believe such a solution would be no good. Each of these concepts is based on its own logic and history of scientific thought: “The categorical, object-constituting, language of disciplinary communities is, like all language, historical in character...” (Danziger, 2013, p. 836).

In our opinion, the concept of the “*Subjekt*” must be preserved. For the Russian school, this is one of those concepts that Danziger calls object-constituting. It is grounded in the history of the Russian school and is an indispensable element of its theory.

The best solution seems to be to preserve the German version of the spelling of this concept: the “*Subjekt*.” Andrey V. Brushlinsky suggested this at the European Congress of Psychology in 2000. This translation option is still not in use, although examples of preserving the name of a concept in a foreign language in psychological discourse abound. The English international discourse contains the concepts *Id*, *Ego*, *’etant*, *’entre*, and others. The use of the German word “*Subjekt*” in the translation of Russian texts will preserve the meaning of the texts and convey it to the reader, which is worth doing, even if our computer insists on turning it into a “subject” and underlines it with a red line ...

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The Genealogy of Personality Psychology — Why Personality Became So Important

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Background. Personality psychology in academia reached its peak in Western psychology in the 1960s and 1970s. Its history usually starts with Freud and ends up with the Big Five. Yet its roots go much deeper, and can be traced back to the early use of the term “psychology”, primarily among Protestant scholastics in the late sixteenth century. This was related to the Christian Reformation, which highlighted the sacrament of penance and emphasized self-examination of the true believer. The background for this study is to bring in a historical perspective on personality. Max Weber, for example, demonstrated that this led to a morality of faithfulness to one’s deeds. This duty, he says, explains the prosperity of the Protestants in Europe and the US in the seventeenth century. Michel Foucault showed in the first volume of *The History of Sexuality* how the sacrament of penance led to a certain interest in human nature and sexuality. Human nature was at the core of the very early use of psychology.

Objective. The objective of this paper is to focus on how these aspects were treated in early psychology by following a design that examines *the person, human nature, individual differences, and intellectual abilities*.

Results. One of the results is that there is a direct connection between the use of the term “personality” in psychology, and the use of the term “psychology” from the very beginning based on the following findings: (a) “Psychology” appears in the wake of the interest in the individual, and (b) “Personality” appears as a specified term with the aim of achieving a scientific understanding of individuality.

Conclusion. Thus, one conclusion is that we have definitely not solved the dilemma that Gordon Allport pointed to: that traditional scientific ideals deal with general laws, whereas personality psychology deals with individuality. Another important conclusion is that this dilemma and conflict are not possible to solve within psychology.

Keywords:
personality
psychology,
history of
personality
psychology,
history of
psychology,
individual
psychology,
human nature

Introduction

Like many other terms in psychology, “personality” is a term that may point in different directions. It reflects in many ways the main perspective and focus that characterize the psychology of the twentieth century. The term “personality” can be related to almost all the schools and orientations that dominated the field in the twentieth century – from psychoanalysis to behaviourism; it can be covered by the century’s methodological diversity, ranging from narrative self-reporting to quantitative systematization. It is a term that was almost unavoidable from the 1930s to the 1970s, but before and after this period, the term was used less. It is an intriguing question, why and how this term became so important and popular for a while, but also why it was not much used in certain other periods.

In this paper, I will pursue how personality became an important term in psychology by focusing on two historical aspects: how the term developed in the twentieth century, and how that compares with the time that the term “psychology” appeared in European languages for the first time. There is a strong connection between the two, as the most fundamental question related to this term is the relationship between the general understanding of human nature and individual diversity. This is the conflict that Gordon Allport (1960) identified. Indeed, the most radical conflict between those two aspects of the psychological human being can be traced back to the sixteenth century. I will start with how the term appeared and was conceived during the twentieth century.

Psychological Terms

Terms in psychology have never been stable, yet there are two aspects that may characterize the appearance of psychological terminology. Most of the terms have their origin in well-established everyday words, which are turned into a more specialized use. Other terms may have the opposite origin, namely that they are construed to depict certain psychological phenomena, and then become adopted by everyday language. The terms “passion” and “emotion” may exemplify these origins.

“Passion” was a word that was used in everyday English in the seventeenth century. When the British empiricists started investigating human nature, the general term they used for feelings was “passions”. Thomas Hobbes and John Locke never used the word “emotion”, but they both referred to “passion” as the general term (Richards, 1989). Even David Hume, a hundred years later, uses “passion” in his titles when he discusses feelings and human nature; however, in his text, he gradually introduces “emotion” as a general term. The difference between the two terms is very much related to the scientific and philosophical changes in perspectives about humans during the Enlightenment. Descartes had become popular by, among other things, describing human nature and its passions in purely mechanistic terms (Descartes, 2015 version). But the term “passion” may have negative connotations, including moralistic overtones, and therefore did not fit the ideals that lie behind a more mechanistic understanding of human nature. “Emotion”, which just refers to the fact that one is moved by something, represents a more neutral understanding of these aspects of human nature, and this term was therefore gradually adopted as a more scientific term for describing feelings in general. This term, which started

as a rather specialized term, was later applied in everyday language, of which it is a normal part today.

The term “personality”, on the other hand, is comparable with both types of origin. As Kurt Danziger (1997) points out in his brilliant analysis of the term, it was in use long before psychologists adopted it. When it appeared in psychology, the meaning went in two different directions. One was medical, referring to diseases related to personality, and consequently, the term became associated with alternating personality or multiple personality. The other direction was the self-improvement literature, which, according to Anthony Giddens (1991), is one of the main characteristics of late Western modernity. This type of literature had existed for a while before the twentieth century, although it did not use the term “personality”, but rather the more common word in everyday-language, “character”. According to Danziger, this ended up in a broad understanding of the term, which covered both some medical aspects and the core of a modern individual’s everyday life: “Not only had ‘personality’ become a part of the individual that had to be watched anxiously for signs of disease, it had also become a universal possession capable of degrees of perfection defined in terms of a vocabulary of social effectiveness” (Danziger, 1997, p. 125). The most important aspect of the use of the term “personality”, however, was that it was conceived as a quite neutral term, and therefore was a very welcome replacement for the term “character”, which was, and still is, strongly associated with morality, as we always connect character to something that is good or bad.

Personality and Individuality

Personality is particularly associated with individuality. Many associate this aspect with French psychologist Alfred Binet, who coined the term “individual psychology”, as well as with Francis Galton and William Stern, who both focused on individual differences in a systematic way. These aspects bring us to the core of what the term “personality” and personality psychology are supposed to be about. Personality tries to capture individuality, which is also the core of psychology.

Gordon Allport, probably the most important contributor to the development of personality psychology, was very conscious of the importance of individuality. He saw that there is an almost insurmountable conflict between traditional scientific ideals, which deal with general laws, and personality psychology. When psychological research tries to follow scientific ideals by achieving general laws, Allport says it will “assume that the individual must be brushed aside” (Allport, 1960, p. 11). He continues very wisely by saying, “This tradition has resulted in the creation of a vast shadowy abstraction in psychology called the generalized-adult-human-mind” (p. 12). This abstraction not only challenges, but also violates the idea of the individual. Moreover, the individual is not to be regarded as a stable entity, as even the adult mind develops. Allport compares psychologists and literary writers, and concludes that the latter are better able to grasp the individuality of a person than the psychologists. “The abstraction that the psychologist commits in measuring and explaining a non-existent mind-in-general is an abstraction that no literary writer ever commits” (Allport 1960, p. 12). Neither Allport nor most other psychologists will give up the idea of understanding the individual, however,

and Allport concludes that the dilemma appears inexorable and therefore impossible to avoid.

The challenge is predominantly embedded in terms and how they are applied. This becomes evident by looking at the transition from use of the term “character” to that of the term “personality” instead. This is a transition of perspectives as well. The former might be associated with morality, in the sense that character can be good or bad. Although one may think of personality as being good or bad in everyday life, this can be avoided when it is applied as a specialized term. This was of course achieved by developing personality-measurement instruments. The various personality tests measure the strengths and weaknesses of a person, rather than their good and bad sides. The moral aspects are not necessarily included when we refer to strengths and weaknesses, only the person’s capacity for doing the job or not. Strengths and weaknesses just tell us in which areas a person does or does not have competences and skills. This way of looking at a person is devoid of moralistic judgements; it is rather a sober assessment, and consequently also a neutral conclusion. On this basis, the term “personality” satisfies the scientific ideal of measuring some general qualities of a person.

Personality and the Self

On the other hand, we are still dealing with the problem that Allport identified, specifically a “generalized-adult-human-mind”. On this background, a third term appeared to replace “personality”, and that was the term “self”. Allport had problems with accepting a personality as being just one thing, and therefore used the term “trait”, which indicates that a personality may include tendencies related to different types of personalities. Thus an individual’s personality can never be depicted by just one “generalized-adult-human-mind”-type, but by several and maybe even different types of “generalized-adult-human-minds”. Another aspect is that a human being lives a life whose main characteristic is development. Development is not just about how a child turns into an adult, but is also an important aspect of adulthood.

Development through the whole life-span has just recently become a focus in Western psychology; however, in Russian psychology it has been covered by the more or less well-established term “Achmeology”, coined by B.B. Rubnikov in 1928 (Chvojková, 2013), and later adopted by B. G. Ananiev (Mironenko, 2013). This term is completely unknown in Western Europe and the US. According to this concept and recent research in Western countries, the life-span must be regarded as a developing process, in which numerous aspects contribute to form an individual’s personality. This implies that the personality itself must reflect a corresponding complexity, which is able to absorb all the constituting factors in a person’s life. As a consequence, the term “self” has more or less been applied to replace “personality”, quite simply because it is diffuse enough to be filled up with different types of elements that may reflect the complexity of an individual’s mind.

On this background, many different types of self-psychology have appeared. One theory with great impact in the 1970s was Heinz Kohut’s self-psychology, in which the self was divided into three “poles”. One pole is the grandiose-exhibitionistic self; another is the idealized self, in terms of the need for an omnipotent,

idealized figure; the third pole reflects the need to project oneself onto an alter-ego, which is the search for a twin in the self (“Twinship”, Kohut, 1984/2013). In the psychoanalytic tradition, the challenge has been to describe and model the complex dynamics that evolve among the different parts of the self, primarily based on the conflicts that may appear among them. Yet the self can represent a multiplicity, which is not necessarily based on conflicts. This is the self that may appear within a narrative framework, which is more about the different roles that an individual may play in life. This was first described by Erving Goffman (1959), but has been followed up by narrative approaches like that of D. P. McAdams in his book *The Stories We Live By* (1993). Although an individual’s life may change and produce different stories, “a fundamental aspect of selfhood is the process of integrating, unifying, [and] synthesising the disparate elements” (Wollmer, 2007, p. 31). In this respect, the understanding of the narrative self is different from the psychoanalytic understanding of the self, as it underlines unifying processes instead of conflicting ones. The dialogical self, on the other hand, may count as a third alternative, as it is based on L. S. Vygotsky’s thesis of inner speech and M. M. Bakhtin’s idea of the polyphonic mind. This theory includes the aspect of conflict, but due to its dialectic basis, it also includes mediation, the synthesis that unites the thesis and the antithesis.

Character, Personality, and Self Compared

With all these different theories about the self, the term itself has become quite widespread, and we see a clear movement in the historical development of terms to depict an individual, from use of the term “character” at the beginning of the twentieth century, via “personality”, to end up with the dominance of “self” at the end of the twentieth century. A meta-study (Teigen, Normann, Bjørkheim, & Helland, 2000) on the use of the three terms in scientific publications in psychology during the twentieth century demonstrates this development from a historical perspective. This is presented in Figure 1.

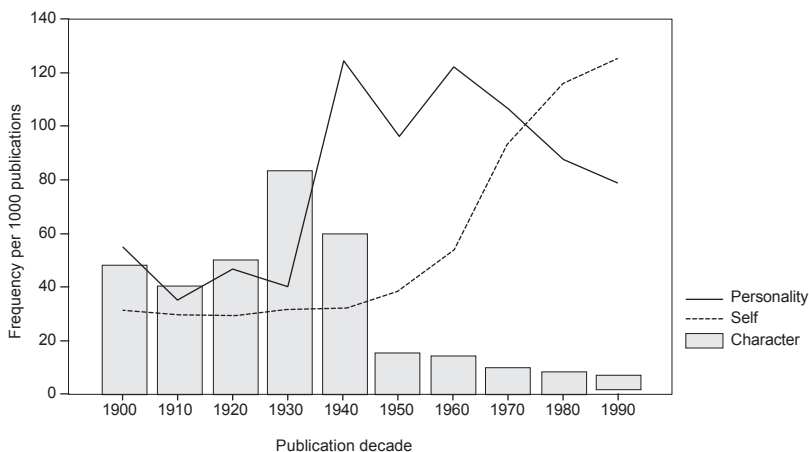


Figure 1. Increase and decrease of use of the terms “personality”, “self”, and “character” (Teigen et al., 2000, p. 22).

Any discussion of the use of these three terms is closely related to a question about identity: To what extent is a person still the same after having developed and changed continuously throughout life? This is a fundamental logical problem that scholars have dealt with for centuries, and it is still embedded in the use of “personality” and its adjacent terms. This logical puzzle was explicitly addressed in the seventeenth and eighteenth centuries, and one of those who tried to figure out how it could be solved was John Locke. He simplifies the question by asking rhetorically whether a man wearing one set of clothes one day, and another set of clothes another day, should therefore be two different persons. His answer is related to the use of the term “consciousness”, which was completely new in English at that time, and he regarded it to be the unifying term to describe a person. The point he makes is that we have to make a distinction between substances and consciousness. When we are thinking about something, we are thinking about substances. Thus consciousness might be filled up with different substances, in the same way as we are wearing different clothes, but they are still united by the same consciousness. “For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved” (Locke, 1651/2014, Book II, Ch. 27, p. 14).

The Appearance of Psychology and Theology

The discussion Locke is dealing with here is very much related to the big changes that took place in European culture during the Enlightenment. In the same period, “psychology” also appeared as a term. This was the time when the term “consciousness” replaced the term “mind”, which also had replaced the term “soul” a hundred years earlier. In other words, this was a time of transitions and changes. The appearance of psychology was a crucial factor in many aspects of the transitions that happened at that time, as the greatest turmoil that occurred was when subjectivity emerged as a central part of philosophy.

This was the point of departure for Immanuel Kant when he wrote the *Critique of Pure Reason*. In his thesis, subjectivity formed the foundation for establishing a completely new type of objective knowledge. This change of perspective was what he called a Copernican revolution in philosophy, in which objective knowledge was no longer based on objective and general tenets about the outer world, but on a subject’s inner cognitive capacity. This is transcendental philosophy, in which subjectivity forms the basis for universal and objective knowledge.

This would not have happened if psychology had not appeared as an independent subject in the academic arena. Consequently, it is not sufficient to explain interest in the individual’s personality by just referring to this turn and the changes in philosophy. Its roots go far deeper, and “psychology” as an emerging academic discipline can be traced back to the early use of the term back in the early sixteenth century. The term “person” can be traced much further back in history. In the sixteenth century, both terms had Greek origins and they were both used in theology. In Catholic theology, Thomas Aquinas made a distinction between an individual and a person, in the sense that a person was a complete, rational individual, a state which was only fully achieved through participation in Holy Communion (Clarke, 1992). The early use of the term “psychology” is partly comparable to the Catholic use of the term “person”, but the former appeared primarily among Protestant

scholastics in the late sixteenth century. The term “psychology”, therefore, was related to the Reformation, which highlighted the sacrament of penance, emphasizing the self-examination of the true believer.

According to Max Weber, this sacrament led to a morality of being faithful to one's deeds. This duty, he says, explains the prosperity of the Protestants in Europe and the US in the seventeenth century (Weber, 2011 version). In the Catholic Church, the Counter Reformation also highlighted this sacrament, and Michel Foucault has demonstrated how the sacrament of penance led to a certain interest in human nature and sexuality (Foucault, 2013). Focus on human nature was at the core of the rise of psychology as an independent academic discipline from the very beginning. This interest was central primarily for the Protestants, and one of the most important figures in this was Philipp Melanchthon, who wrote papers and gave lectures on Aristotle's *De Anima*, but expanded the content to include physiological aspects of the person. He revitalized Galen's thesis of the four humours, related to different fluids in the body, and by this made a direct connection between the soul and the body.

On this basis, there is a close connection between the Catholic conception of a person and the Protestant conception of psychology. Both are related to the holy sacraments, and both emphasize individuality. Yet the differences are just as interesting. The sacrament of Communion underlines the aspect of being a part of a community, which is of a general order, whereas the sacrament of penance is about confessing sins that the individual alone has committed, which is of an individual order. Hence, by merging person and psychology, there was already at the beginning an embedded conflict, which is comparable with the paradox Allport pointed to when he referred to a non-existent mind-in-general. This is the classical conflict between the general and the particular.

The Term ‘Person’

This may also be an important aspect of the term “person”. The original meaning of the word is related to the theatre in ancient Greece, and later on in Rome, where the actors used masks. The term “person” is usually explained as if it originally referred to a mask (Allport, 1937). However, the etymology of the term is more uncertain.

One version, which is regarded as the most accepted, says the term is a compression of the Latin phrase *per sonare*, which means “to sound through” (Allport, 1937). “According to this theory the term had reference to a large mouth of the mask”, says Allport (1937, p. 26). However, this meaning can be related to another perspective, which does not focus so much on visual properties. When masks were used, the mask itself had a specified and fixed expression. This made masks that featured general characters; however, the *individuality* of the character was transmitted through the *voice* of the actor. Consequently, when actors donned masks in the ancient theatre, the voice — one of the most sensorial forms of communication — was the only thing that conveyed individuality. Thus in ancient Greek and Roman theatre, there were two layers of information about the character: the general provided by the mask, and the particular provided by the voice. General knowledge about the character was highly valued, as it made the

character predictable. The intonation of the voice, on the other hand, appeared as unpredictable, as it could be gentle in one second and harsh in another. General knowledge has always been appreciated, whereas unpredictable knowledge based on experience has always had a lower status. This is reflected in Aristotle's thesis in *De Anima*, which is about how knowledge is acquired. What characterizes this thesis, however, is that knowledge acquired through experience is accepted as a necessary and unavoidable starting point, but the knowledge that counts is that processed by thinking. Thus, Aristotle's thesis is not about psychology, but about the theory of knowledge. From a psychological perspective, on the other hand, a person has always been regarded as a sensorial entity.

Two Historical Needs for Psychology

Theology and philosophy found each other in focusing on general knowledge during medieval times. This changed radically in the Renaissance. There were, however, two different and apparently contradictory movements that took place. One was the movement of humanism, which was sceptical toward the institutionalized Church, and rather emphasized individual honesty in faith. This culminated in Protestantism. The other was the divorce between theology and philosophy. This was a consequence of the Protestants' slogan "Scripture alone", which indicated that there were no room for philosophy in theology. This resulted in the fact that philosophers had to search for a secular basis for philosophy.

It was in the wake of these two tendencies that the term "psychology" appeared in the sixteenth century, primarily among Protestant scholastics (Vidal, 2011). The two movements resulted in a common interest in human nature. The Protestants wanted to know more about human nature because they focused so heavily on the sacrament of penance, and secular philosophy, because the subject appeared to be the only basis for philosophical knowledge when God did not count as a basis for knowledge about the secular world. Descartes, among others, demonstrated that secular philosophy called for a deeper understanding of the person that thinks, and of that person's nature.

There are about three known appearances of the term "psychology" in the sixteenth century. The first is traced back to the Croatian humanist Marko Marulić (1450–1524). He wrote in Latin, and his thesis about the soul was entitled: "*Psichologia de ratione animae humanae*" ("Psychology, the nature of the human soul"). We know only the title, as the manuscript has been lost.

The second was the German philosopher Johann Thomas Freigius (1543–1583), who was a so-called Raminist, which means that he taught a free understanding of Aristotle's logic. Typical for the Raminists was to state that it is difficult to make a clear distinction between inductive and deductive inferences. This opened the way for the belief that an inference that started with the particular could be just as valid as an inference that started with the general. This was an attack on Aristotelian philosophy, and opened up the way for psychology. Aristotle never accepted sensory experiences as the basis for scientific knowledge, whereas these are at the core as psychological factors. Freigius was the one who placed psychology within philosophy, along with those sciences that were based on sensory experiences, like physics, astronomy, and the like. Another important thing he did, was to place

those sciences on the same level as metaphysics (Luccio, 2013). Freigius did not use the word “psychology” in book titles, but he treated the topic in his writings of the 1570s, and both aspects pointed at here formed the foundation of a secular philosophy based on psychological factors.

The third person we know who used the term “psychology” and gave it content is the German philosopher Rudolph Goclenius the Elder (1547–1628) (Krstic, 1964), who published in 1590 a thesis in which “*Yuchologia*” (“Psychology”) formed the key term. The full title indicates that it focuses on the perfection of the human soul, but at the same time, it presents some theological and philosophical arguments relevant to “our age” (“*nostra aetatis*”). One of the hot topics of discussion at that time was how to understand Original Sin: Is the soul, and therefore also sin, inherited directly from our ancestors (traducianism), or is the soul created individually for each person (creationism)? The latter perspective won out, and formed one of many premises for looking at human beings as individuals.

Another important factor that completely changed the understanding of the human being was the changes in the understanding of the soul. In ancient times, this was divided into its immortal aspects and its intellectual abilities. However, when philosophy merged with theology in the early Middle Ages, this distinction disappeared. It was allegedly the Church Father Isidor of Sevilla who in the seventh century decided that there should not be such a distinction. This underlined the collectivistic thinking in the Catholic Church: Differences in intellectual capacities should not count in the salvation of the soul. The revolt in the Renaissance was very much directed towards this levelling of individual differences. The ancient perspective on the soul was evoked again, and this created the basis for the faculty psychology as a discipline in the eighteenth century. A focus on human faculties still forms the basis for talking about personal differences in intellectual abilities. There was, in other words, a complete reorientation in how to understand human beings, a turn away from a general and collectivistic understanding to a focus on individual differences. The emergence of psychology as an academic discipline can be regarded as a driving force in this process.

Conclusions

We may conclude that there is a direct connection between the use of the term “personality” in psychology, and the use of the term “psychology” from the very beginning. However, the very beginning refers to the sixteenth and the seventeenth centuries. This implies that Aristotle’s *De Anima* is not regarded as a central part of the history of psychology, as his thesis is predominantly about philosophy. The difference, however, is that philosophy proceeds from the need to acquire general knowledge of universal validity, whereas psychology proceeds from the opposite, the need to acquire specific knowledge of particularities. The latter includes human beings in a double sense: First, our sensory system deals with particularities through sensation, in contrast to the higher mental functions like language and thinking, which deal with the general and with generalized meanings. Second, by emphasizing the sensorial aspects that are entrenched in the body, the individual appears as unique, but also as a multifarious and rich entity by itself. This is what Europe discovered in the Renaissance and the Enlightenment.

According to Allport (1960) the first biography we know about was published in 1683. Yet before that, an expression already existed, which became highly appreciated in nineteenth-century Romanticism, and this was the phrase “*individuum est ineffabile*”: The individual is unlimited and inexpressible. This was Goethe’s slogan when he started pursuing just one character in his novels, like *The Sorrows of Young Werther* from 1774. Wilhelm Dilthey referred to this when he tried to explain hermeneutics (Dilthey, 1900).

These cases represented a complete change of perspective, which was definitely comparable with the Copernican revolution. While Kant realized that this turmoil also occurred in philosophy, it was actually not Kant who introduced subjectivity in philosophy, although most textbooks say he did. It was rather Christian Wolff, who had included *Psychologia empirica* as a part of metaphysics along with ontology, cosmology, rational psychology, and natural theology in 1732. The British empiricists also contributed to this when they focused on human nature in their philosophical writings, although they never used the term “psychology”. They did not have to, because psychology had already intervened in philosophy when Freigius and Goclenius used the term in the latter part of the sixteenth century.

From this perspective, it was completely appropriate when Allport, in a tone of resignation, concluded that there is a fundamental dilemma embedded in personality psychology, and that this dilemma is unavoidable. Although we want to grasp the individual with the term “personality”, our scientific ideals go relentlessly in another direction. Even in psychology, too many are still following Kant’s ideal from the *Critique of Pure Reason*, which says that only general statements are acceptable from a scientific point of view. Although he banned *psychologia empirica* from metaphysics, many approaches in psychology, and not least research in personality psychology, still follow such ideals of pure science. As long as this is the case, the result is exactly what Allport saw in the 1950s, namely that “[t]his tradition has resulted in the creation of a vast shadowy abstraction in psychology called the generalized-adult-human-mind” (Allport 1960, p. 12). Although Aristotle’s logic was already challenged in the early Renaissance, it is hard to see how a specific understanding can turn out to be generally valid. And if not, just the aim to acquire general knowledge about personalities has to end up with abstractions and a non-existent generalized-adult-human-mind. To avoid this, and to say something about the individual personality, personality psychology has to apply methods and approaches that focus on the specificity of an individual, which was something that Gordon Allport saw and realized.

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Science, Culture, and the Study of Personality

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Background. The study of personality, particularly the investigation of *individual* personality, remains a thorny issue in psychological science. Many personality studies utilize aggregated data to make comparative statements about groups of persons. Though important for group comparisons, this body of research neglects a careful examination of individual personality.

Objective. To enhance psychologists' understanding of individual personality process and variation.

Results and conclusion. This theoretical article suggests two strategies to augment the exploration of individual personality. First, our understanding of individual personality will be enhanced if personality psychologists broaden their research activities to include strategies that lead to a better understanding of individuals rather than groups. These efforts include both qualitative approaches and person-specific quantitative analyses that target individual process and variation. Second, personality psychologists should actively seek greater cultural sensitivity via interdisciplinary collaborations. In particular, the conceptual resources of comparative philosophy and the study of cultural ontological traditions will enhance the ability of personality psychologists to scientifically track the process and variation of individual personality. To this end, the article examines the structural ontology of the West and contrasts it with the process (event based) ontology of the East, showing how these ontological traditions continue to shape the discourse of personality psychology. The article also considers the oneness hypothesis, the world view that all persons (and personalities), creatures, and things are relationally bound together, a viewpoint distinct from the Western value of autonomy and self-sufficiency. As a conceptual resource, the oneness hypothesis derives from a process ontology and has important implications for understanding individual personalities and their place in the social world.

Keywords:

Personality structure, personality process, cultural psychology, ontology, the oneness hypothesis

Introduction

*"You're nobody 'til somebody loves you.
You're nobody 'til somebody cares."*

(1944, Lyrics by American songwriters
Morgan, Stock, & Cavanaugh)

Any scientific endeavor will have its twists and turns, blind alleys, and moments of clarity. This certainly holds true when attempting to study scientifically the complexities of human personality, particularly the process and variation inherent in individual personality. Open ten personality textbooks, and you are likely to find ten different definitions of the term "personality." It is not that one or another definition is correct and the others are incorrect; rather, the definitions reflect the differences of perspective in personality psychology.

The reasons for this state of affairs are longstanding and complex. In this article, I briefly trace scientific and cultural forces that have shaped how psychologists think about and study personality. These same forces apply to the study of any psychological phenomenon, although the study of human personality has a unique set of challenges.

Some Relevant Scientific Trends

In the not-too-distant past, American psychologist Lee Cronbach wrote two important articles that are as germane today as they were in 1957 and 1975 when he published them. In the first article, Cronbach (1957) outlined two streams of thinking and methodology that had dominated the science of psychology during the previous century. Both are well known to psychologists. The first was the experimental method, in which the experimenter sought to control a number of variables in a laboratory setting, while manipulating only one to observe its impact on another variable. The second stream, the correlational approach, sought to study relationships as they exist in nature, without exerting any type of control in a laboratory or any other setting. In the former approach, individual differences are seen as problematic. In Cronbach's words, "Individual variation is cast into that outer darkness known as 'error variance' " (p. 674), whereas such individual process and variation are exactly what the correlational strategy sought to explore. Cronbach's article concluded with an appeal for a unified approach to psychological science.

Eighteen years later, Cronbach (1975) wrote a follow-up piece lamenting the lack of progress in disciplinary unification and in theory development. To this end, Cronbach made a number of important observations. Consider this one: "A laboratory generalization, once achieved, may not be a good first approximation to real world relationships" (p. 121). Or this: "The half-life of an empirical proposition may be great or small. The more open a system [*personality is an open system*; see Giordano, 2015], the shorter the half-life of relations within it are likely to be" (p. 123; bracketed italics mine). Or finally, consider this assertion, an idea I will discuss in greater detail below: "Social scientists generally, and psychologists in particular, have modeled their work on physical science, aspiring to amass empirical generalizations, to restructure them into more general laws, and to weld scattered laws

into coherent theory. That lofty aspiration is far from realization" (p. 125). Were Cronbach alive today, I suspect a third article would develop similar themes.

In the 1957 and 1975 pieces, Cronbach was critiquing scientific psychology as a whole, although he did allude to specific challenges in personality psychology. In similar fashion, Monte (1991), in his now classic personality text, outlined similar contours of the controversy as they pertain to personality psychology. Here he distinguished between two schools of thought regarding personality. The first derived from the experimentalists, whose ideas came out of the laboratory. These researchers and theorists (e.g., Skinner, Eysenck, Cattell), sometimes referred to as peripheralists, typically did their work in academic settings, favoring careful quantification and the controls of the scientific laboratory.

The second school of thought originated with clinicians, often with academic appointments as well. These theorists and researchers, sometimes described as totalists or depth psychologists, used their clinical experiences in therapeutic settings to drive their theoretical frameworks and research strategies. Freud and Rogers, though very different in their orientations, fit in this latter group. Less interested in control and precise quantification, these personality theorists worked to understand persons in their natural habitats, so to speak. The parallels to Cronbach's experimental and correlational researchers should be clear.

Taken together, the efforts of Cronbach and Monte, working independently of one another and in different time frames, suggest an important question. What do these two streams of thought and method imply about the scientific study of personality? One implication, and the subtext of these methodological debates, is the degree to which uncertainty in our science is tolerated. In experiencing "physics envy" (Gould, 1981), psychologists have felt compelled to eliminate uncertainty as much as is feasible in their laboratory studies. This compulsion attempts to align psychology with the other sciences that are seen as more empirical – the so-called "hard" sciences, such as physics or chemistry, rather than the "soft" social sciences. It is a status-seeking move.

This bifurcation plays out as well in the (unfortunate) competition between quantitative and qualitative approaches to psychological research. The former is seen as "hard," more precise, and of higher scientific status, whereas the latter is perceived as "soft," less precise, and of lower scientific station. Quantification allows us to feel *as if* we are *collecting* data that are inherent in the phenomenon we are studying. We collect these data *out of* the phenomenon we are studying. In the domain of personality, we may be seduced into thinking that if we can measure and quantify it with precision, whatever "it" happens to be, then it exists as a discrete entity or "substance" in nature, much as a potassium ion or photon of light exists in the natural world. A potential problem with this orientation is that we reify constructs as we attempt to quantify them (Gould, 1981). By quantifying the amount of a person's extraversion, for example, we assume we have tapped into the person's "true" amount of extraversion. The oft-quoted maxim, "let the data speak for themselves" reflects this orientation. To be fair, quantification does have utility when the scientific goal is to aggregate data in order to make quantitative comparisons between groups of people. At the level of individual personality, however, knowing a group's average amount of [fill in the construct] will tell us little about any indi-

vidual person's behavior at any specific point in time and in any specific context (Giordano, 2018; Giordano, Taylor, & Branthwaite, 2018).

As an alternative viewpoint, particularly in the domain of personality psychology, it is preferable to think of data *derivation* approaches, rather than data *collection* strategies. This way of thinking about data has been highly developed by Valsiner (see Valsiner, 2000, for one example) and sees data as ambiguous representations of semi-structured phenomena that are in part affected by the researcher's interaction with the psychological phenomenon under study (Valsiner, 2000). This conceptualization speaks to the inherent instability and uncertainty in studying psychological phenomena because they are semi-structured and dynamic. Therefore we do not collect data from a sample; we derive it from the phenomenon as we interact with it. This way of thinking, however, is problematic for a hard science orientation, even though, as both Clegg (2010) and Freeman (2011) have argued, uncertainty is part and parcel of any scientific endeavor. Uncertainty should be welcomed, not avoided. Besides, uncertainty and ambiguity are what make *individuals* interesting.

The Contributions of Cultural Psychology

More recently, some personality psychologists have embraced the relevance of cultural phenomena in shaping and maintaining personality. This trend has been a long time coming, although with globalization it has been inevitable and will only continue to gain traction. Henrich, Heine, and Norenzayan's (2010) seminal work provided powerful evidence across a range of psychological phenomena of the error of studying only W.E.I.R.D. samples, as is common in the US, and then generalizing to all persons around the globe. W.E.I.R.D. people are Western, Educated, from Industrialized countries, Rich, and from Democratic societies. The work of Henrich et al., as well as many others (see Cheung & Ho, 2018; Keith, 2013; Kitayama & Uskul, 2011; Markus, & Kitayama, 2010; Nisbett, Peng, Choi, & Norenzayan, 2001; Valsiner, 2014) has made it clear that cultural forces cannot be ignored when studying psychological phenomena, including personality.

And yet the neglect of culture, or at least an insensitivity to its nuances, persists. This problem is seen clearly in the widespread use of the Big Five taxonomy when an imposed etic strategy is adopted. Although the Big Five may be useful when studying groups of persons in the United States, its value in other cultures has been challenged. Take, for example, the sophisticated work of Fanny Cheung in Hong Kong. Cheung and colleagues (Cheung & Ho, 2018) call into question the (imperialistic) imposed etic approach to describing and measuring personality. They observe that, "In Asian cultures, many emic constructs are not covered in Western personality models, such as the concepts of 'harmony' and 'face' in the Chinese context ..., 'amae' (sweet indulgence) in the Japanese context, and 'chong' (affection) in the Korean context ..." (p. 213). Foregrounding the significance of culture, they argued for a *combined* etic (imperialistic) and emic (indigenous) approach to personality theory and measurement. Following this perspective, they developed and validated the Chinese Personality Assessment Inventory (Cheung, et al., 1996), which takes into account the cultural foundations of personality construction in a Chinese population.

Diverse Ontological Traditions

At an even more foundational level, however, are *cultural assumptions* that scaffold the study of personality. Often these assumptions are accepted axiomatically, though they should be made explicit and examined. As one example, a purely imposed etic approach to studying personality is blind to culturally embedded assumptions about persons, their relationships with others, their “selves,” their place in civil society, and so on.

Here I discuss the ontological footing of cultural worldviews, which I have written about in previous publications (Giordano, 2014, 2015, 2017, 2018). The bottom line is this: It is unwise to theorize about human personality without making explicit the ontological assumptions giving rise to theoretical perspectives. For instance, generally speaking (there are always exceptions), the ontological tradition of Western cultures has construed the world, including persons and personalities, as consisting of entities that are relatively fixed, static, and stable. This ontological outlook provides the philosophical foundation for thinking of persons as autonomous and personal characteristics as stable and quantifiable. Any personality perspective that emphasizes personality *structures* such as autonomous “selves” or “egos” or “dispositions/traits” originates from this ontological viewpoint. If you have grown up in a Western culture, this perspective resonates as common sense.

Comparative philosopher Roger Ames (2011) and colleagues (Ames & Hall, 2001; Ames & Rosemont, 2009; Rosemont & Ames, 1998) refer to this Western perspective as a Being (or substance) ontology. To acknowledge and to be consistent with these scholars, in my past work on this topic I have referred to this ontology as a Being ontology. Thanks to the insights of Kostromina and Grishina (2018) and Mironenko (2018), going forward I will refer to this ontological tradition as a structure ontology (see Giordano et al., 2018), because, for psychologists, this label more accurately reflects the essence of this worldview.

In contrast, generally speaking the ontological tradition of Eastern cultures (e.g., East, Southeast, and South Asia) has construed the world, including persons and personalities, in terms of *events and processes* rather than structures and entities. We can label this ontological perspective as a Becoming or process ontology (Ames, 2011). In contrast to structures, processes and events are unstable, dynamic, emergent, novel, and contextual. A “personality” from this vantage point is not a fixed, stable entity; rather, it is more accurately understood as evolving, dynamic, and emerging in social context. Any one *individual* personality is therefore difficult to quantify in any meaningful way, as a result of its emergent and unstable properties.

From this ontological vista, personality does not consist of substances or entities *within the person*. Personality-as-process exists *between* persons, so to speak, and between persons and situations, emerging moment-by-moment as contexts change. One simple example illustrates this perspective. Ask a 16-year-old if she behaves the same around her peers as she does when she is with her parents. The most typical answer will be a resounding NO! Why is this the case? From a structure ontology, we could argue that she is in fact the same person (i.e., her personality is stable), but the situation “pulls for” different behaviors. Fair enough. Person–situation interactions are well documented in the scientific literature.

However, it is equally plausible to invoke a Becoming ontology – in fact, this young woman’s personality is not stable; it is always emergent as it responds to different social contexts, in this case peers or parents. Why should we not adopt this point of view? One reason may be that structures are easier than processes to study, measure, and quantify – an important component of “hard” science. Another reason may be that we automatically operate out of our own ontological perspectives, without considering the viability of other viewpoints. To understand individual personalities in terms of processes is a relatively new approach, although it may be gaining momentum in scientific circles (Kostromina & Grishina, 2018).

The contrast between process and structure ontology is also foundational to the well-known work of Markus and Kitayama (1991, 2010) on the distinction between the interdependent and the independent self. The former, more common in Eastern cultures (though not exclusively so), is relational and therefore dynamic, emergent, and processual. The song lyric at the outset of this article, though Western in its origin, is instructive. It pushes back on the independent/autonomous self, rendering it meaningless and empty (“you’re nobody”) outside of caring social interactions. “You’re nobody ’til somebody loves you” is a concrete articulation of process ontology, and the lyric should not be construed merely as clever, romantic song-writing. It reflects an ontological orientation.

Relational selfhood is found in a number of Eastern philosophical traditions. In previous work, I have tried to show how classical Confucianism can provide rich conceptual resources for understanding individual personality as relational and process-centric (Giordano, 2014, 2015). Though quite different from Confucianism, the Buddhist perspective, a tradition that is highly psychological in its orientation (Wallace & Shapiro, 2006), also reflects a process ontology. According to Buddhist philosophy, the self as structurally stable is an illusion and a source of mental suffering. The function of meditation in these traditions (there are many and diverse Buddhist systems of thought and practice) is to become aware of the ever-changing flow of thought, often characterized both by fear and by the desire for things to be different than what they are. The dispassionate cognitive observation during meditation reveals there really is no “self” that is creating these patterns of thought. The thoughts just occur, one leading to another, to another, and so on, based on one’s previous experiences and conditioning. One does not need to be a Buddhist monk living in a monastery to discover this quality of consciousness. Even beginning meditators can see these cognitive processes at work, processes that are sometimes referred to as the “monkey mind.” The metaphors of “train of thought” or “stream of consciousness” reflect this quality of our minds. This ontological position is cogently articulated by Buddhist monk Bhante Gunaratana (2015):

“In all that collection of mental hardware in this endless stream of ever-shifting experience, all you can find is innumerable impersonal processes that have been caused and conditioned by previous processes. *There is no static self to be found; it is all process* [italics mine]. You find thoughts but no thinker, you find emotions and desires, but nobody doing them. The house itself is empty. There is nobody home.” (p. 168)

This quote by Gunaratana as well as the scholarship of Roger Ames and colleagues, which I briefly discussed above, clearly express a process ontology that is embedded in the experience of literally billions of people on the planet. This way of understanding human personality and the human experience may be alien to many Westerners, including personality psychologists, but for many others it is common sense.

The Oneness Hypothesis

To further this argument, I will draw on the important interdisciplinary work of comparative philosopher and Confucian scholar Philip Ivanhoe. The relational and process-oriented conception of human personality is the core of what Ivanhoe (2017) calls the *oneness hypotheses*. The oneness hypothesis is “the claim that we — and in particular our personal welfare or happiness — are inextricably intertwined with other people, creatures, and things” (Ivanhoe, 2017, p. 1). Strains of the oneness hypothesis can be found in the work of Western intellectuals such as James, Dewey, and Mead (see Ivanhoe, p. 18).

I highlight Ivanhoe’s work here for two reasons. First, the oneness hypothesis reflects a process-centric ontology. Second, Ivanhoe’s scholarship is elegantly interdisciplinary and, just as he draws on the work of psychology, psychologists would do well to be informed by this philosophical material. As Ivanhoe points out, the oneness hypothesis is not just a statement about how all people, creatures, and things are connected. The implications are more important than mere connection. Ivanhoe avers,

Most basically, the oneness hypothesis is a claim about the nature of the world. Inevitably, this includes a view about the nature of the self and the other people, creatures, and things of the world. The core and the most characteristic assertion of the oneness hypothesis is that we are inextricably intertwined with other people, creatures, and things in ways that *dispose us to care for the rest of the world much as we care for ourselves*. (p. 30; italics mine)

Valuable in understanding the nature of persons and personalities, the oneness hypothesis, therefore, also raises important ethical considerations for how we should live our lives and relate to other people. In providing a historical and cultural survey of notions of the self, Ivanhoe concludes that an understanding of these complexities “should put to rest the authority and dominance of hyper-individualistic conceptions of the self” (p. 44), and by extension should put to rest a purely structural ontology.

My aim here is not to unpack Ivanhoe’s discussion of the oneness hypothesis in detail. Ivanhoe’s work is accessible even to non-philosophers, and I refer the interested reader to his monograph. My objective is again to underscore for Western readers an important ontological tradition that may be unfamiliar, but can inform our understanding of individual personality process and variation. Ivanhoe’s interdisciplinarity is instructive as well, as I have already noted. He weaves together material from philosophy, psychology, sociology, neuroscience, and evolutionary biology. Psychological descriptions and explanations of individual personality will be enriched when enlightened by a wide array of academic traditions.

Conclusion: Culture, Interdisciplinarity, and the Evolution of Personality Psychology

At this juncture, one might legitimately ask why we are discussing Confucianism, Buddhism, and the oneness hypothesis. Isn't this article about personality and scientific psychology? The significance of these traditions for contemporary personality psychology is that for millennia and for billions of people in the world today they have shaped and continue to shape how persons and personalities are understood in non-Western cultures. Personality psychology should continue to break down cultural and disciplinary barriers and draw on conceptual ideas that are important in other cultural contexts and in diverse academic disciplines. Examining ontological foundations is one example of this strategy.

Further, seeking to understand human personality is not the sole domain of psychological science. But one might argue that it is our methodology that defines psychology as an academic discipline. If we are not collecting and analyzing data, then we are not doing scientific psychology. We might be doing something important, but it is not psychology. But this type of hard boundary delineation is a red herring and does not aid our understanding of personality, particularly the process and variation at the level of the individual. Philip Ivanhoe is not less of a comparative philosopher because he draws significantly on the work of psychological science. In fact, his work is more compelling because he shows how a variety of academic disciplines illuminate the idea of the oneness hypothesis. Similarly, psychologists with a qualitative bent or an interest in ontological considerations are not less scientific merely because they not crunching numbers (Gergen, Josselson, & Freeman, 2015). To be fair, the issue really is not one of qualitative or quantitative pursuits. There now exist newer mathematical modeling approaches (subject-specific analyses) for studying individual process and variation in personality (Molenaar, 2004; Molenaar & Campbell, 2009; Nesselroade & Molenaar, 2010). The central point here is that the method we select for scientific study puts constraints on the questions we ask and the answers we find (Giordano et. al, 2018). Interdisciplinary work helps break down some of these constraints.

The methodological rapprochement that Cronbach (1957, 1975) sought has still not been realized, and perhaps this reconciliation is not desirable. Perhaps it is the variation in our scientific practices and in our interdisciplinary collaborations that keeps the study of individual personality dynamic and moving forward. When trying to understand something as thorny as individual personality process and variation, we need all the scientific, interdisciplinary, and cultural resources we can muster.

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Tolerance, Empathy, and Aggression as Factors in Compliance with Rules of Online Communication by Russian Adolescents, Young Adults, and Parents

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Background. Internet psychology has changed its research focus from describing the Internet as a separate space, with continuous interaction between offline and online communication, to exploring socialization in the world of mixed online/offline reality. This paper deals with the psychological and user activity factors of communication on the Internet in comparison with offline communication.

Objective. To differentiate the role of user activity, difficulties with regulating and expressing aggression, empathy and tolerance in compliance with online communication rules.

Design. The study included 1,029 adolescents aged 14–17, 525 adolescents aged 12–13, 736 young adults aged 17–30, and 1,105 parents of adolescents aged 12–17. Participants assessed how likely they are to follow communication rules online and offline, and reported their user activity level; they filled out the Chen Internet Addiction Scale, Buss-Perry Aggression Questionnaire, Davis Multidimensional Empathy Questionnaire, and Tolerance Index.

Results. It was shown that adolescents in general are a “risk group” for noncompliance with communication rules (“Internet etiquette”), but this is due to their general propensity not to follow any rules. Both in adults and in adolescents, failure to follow online communication rules is related to difficulties with aggression regulation, tolerance, empathy, and a low level of propensity for Internet addiction.

Conclusion. A difference between online and offline communication is related not to difficulties with regulation of aggression (anger and hostility), but to a lack of empathy and tolerance, and signs of Internet addiction.

Keywords:
communication rules; online; adolescents; intergenerational comparisons; tolerance, empathy; anger; hostility; propensity to Internet addiction

Introduction

Internet psychology has made its way over several decades from describing the Internet as a separate virtual world, through an understanding of continuous offline and online interaction, to defining concepts of digital socialization, digital competence, and digital citizenship as crucial elements of socialization processes, the formation of social competence and citizenship (Mossberger, Tolbert, & McNeal, 2008; Soldatova, Rasskazova, & Nestik, 2017). By becoming full members of the information society (including online), modern adolescents face and solve a series of different life tasks, in particular related to their relations with other people and specific aspects of communication. There is empirical evidence that, as part of this process, prosocial behavior prevails over antisocial behavior in online communication among modern adolescents (Erreygers, Vandebosch, Vranjes, Baillien, & De Witte, 2017). However, direct comparison (Soldatova & Rasskazova, *in press*) of compliance with communication rules online and offline (which obtained consistent results for nine rules) indicates that there are specific features of communication on the Internet: Adolescents, young adults, and parents all less often follow online communication etiquette than they do offline social norms. In addition, the younger the respondents are, the greater is the discrepancy between their online and offline behavior (see Figure 1). In other words, adolescents comprise a distinctive “risk group” with regard to online communication. From the psychological point of view, the key question is what determines whether a person behaves responsibly and considerately toward others on the Internet, and what causes a discrepancy between online and offline behavior. To put it another way, what defines the willingness to do things online that you do not allow yourself offline?

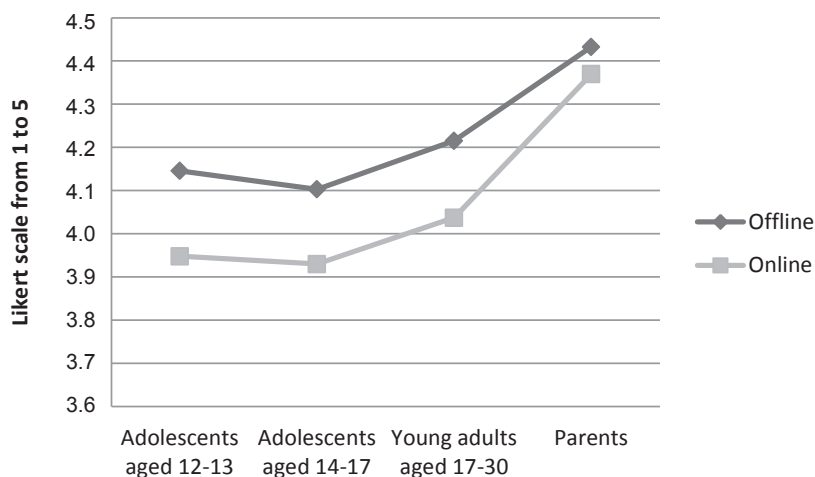


Figure 1. Compliance with communication rules online and offline in different groups.

We can suggest several psychological factors promoting online communication that is rude, inconsiderate, or non-reciprocal (i.e., not based on a mutual relationship).

First, at the very least, difficulty with emotion regulation, including aggression, might be a non-specific factor in violating communication rules both online and offline. The roles of hostility as a personal disposition and of anger as a feature of emotional experience and expression of aggression may be different (Buss & Perry, 1992). According to empirical data, anger in young adults is related to both signs of problematic Internet use and trouble communicating with one's mother and father (Say & Durak, 2016), and in adolescents it is related to a propensity for Internet addiction (Kim, 2013).

Secondly, we can suppose that such factors as empathy and tolerance play a key role in online communication, due to their close connection to a considerate, responsible attitude toward another person, the ability to see things from another person's perspective and to empathize, including if this person is from a different culture, nationality, or social group. However, can we reckon empathy and tolerance to be independent factors, not reduced to the features of aggression regulation? It is known that empathy and tolerance are closely connected to aggression, including online (Machackova & Pfetsch, 2016). For instance, an intervention to reduce stereotyping and group distortion on the part of Christian students and Islamic students was effective in large part due to changes in emotion regulation, in particular because the students started to use fewer words expressing anger and sadness (White, Abu-Rayya, Bliuc, & Faulkner, 2015).

Finally, despite all the ambiguity of the term "Internet addiction" (Griffiths, 2005), we can suggest that failure to comply with online communication rules is associated with specific user activity, especially to problematic Internet use. The literature allows us to identify two opposite opinions: (a) Extensive use of the Internet may lead people to feel impunity, difficulty with empathy, and hence a greater propensity to violate reciprocity and politeness in online communication. With problematic Internet use (a propensity for addiction), to the extent that a person abandons other important life tasks, including communication with friends, negative communication will also extend to this person's offline activities. (b) Extensive online activity may promote better understanding of other users, and thus more civilized communication with them. Thus, according to Japanese data, active Internet users have a more tolerant attitude toward strangers and representatives of other nationalities (Seebruck, 2013).

Unfortunately, the studies we have mentioned are few and do not answer several questions that are important both practically and theoretically. To which aggressive features is adherence to rules online related more closely: to anger as a propensity to express emotions or to hostility as a personal disposition toward the world? Do empathy and tolerance have their own effect by promoting adherence to rules online, after statistical control for aggression? Are user activity features important in whether a person follows online communication rules, or are these effects totally reduced to the effects of common psychological variables—aggression, empathy, tolerance? And if they are important, are we exclusively talking about pathological user activity (Internet addiction and problematic Internet use) or is frequency and intensity of online activities by itself connected to a propensity to violate communication rules? Finally, are these associations similar for different generations and which of them are specific to modern adolescents—a special "risk group" that violates Internet etiquette?

The purpose of this study was to differentiate among the roles of user activity (including a propensity to Internet addiction), difficulties with regulating and expressing emotions (anger and hostility), and empathy and tolerance, in compliance with online communication rules and in greater unwillingness to follow the rules online as compared to offline. Our hypotheses were as follows:

1. Empathy and tolerance as factors in adopting a responsible attitude toward another person are associated with greater willingness to follow communication rules online, including after statistical control for difficulties with regulation of aggression (anger and hostility) and following communication norms offline.
2. Specific features of user activity (primarily a propensity for Internet addiction) are additional specific predictors.
3. User activity and difficulties with aggression regulation are more closely related to willingness to follow communication rules online in adolescents than in young adults and parents, whereas the effects of empathy and tolerance are maintained at all ages.

Methods

Participants

The respondents were 1,029 adolescents aged 14–17 (47.0% boys), 525 adolescents aged 12–13 (45.7% boys), 736 young adults aged 17–30 (40.8% men, mean age 23.33 ± 3.90), and 1,105 parents (19.4% men) of adolescents aged 12–17. Parents' age ranged from 28 to 65 (mean age 41.21 ± 5.63). Respondents represented 17 cities of 8 federal districts: Southern (Rostov-on-Don, Volgograd), Volga (Kazan, Kirov), Siberian (Kemerovo, Novosibirsk), Far Eastern (Magadan, Petropavlovsk-Kamchatsky, Khabarovsk), North Caucasian (Makhachkala, Vladikavkaz), North-western (Saint Petersburg, Vologda), Central (Moscow, Moscow Region), and Ural (Tyumen, Yekaterinburg).

Procedure

Data was collected by the Foundation for Internet Development, supported by the Russian Association for Electronic Communication. The survey used the personal interview method and questionnaires for each age group. A university network was used for selecting interviewers who had the relevant professional level for conducting the study: Lomonosov Moscow State University, Saint Petersburg State University, Volgograd State Social and Pedagogical University, Dagestan State Pedagogical University, Khetagurov North Ossetian State University, Kazan Federal University, Vyatka State University, Ural State Pedagogical University, University of Tyumen, National Research Tomsk State University, Novosibirsk State University, Pacific National University, and Vitus Bering Kamchatka State University.

Sixty-eight experienced interviewers/psychologists were selected for conducting the survey. Employees of the Foundation for Internet Development and Lomonosov Moscow State University's Department of Psychology monitored the interviewers' work.

Adolescents and young adults took part in the survey only if they use the Internet. Parents took part in the survey only if they had children aged 12–17 who use the Internet.

Measures

Findings were made by using the following methods:

1. The assessment of *following communication rules online and offline* was subjective. Experts/psychologists formulated nine common rules of interpersonal communication describing norms for courtesy, responsibility, consideration, and mutuality: “Be polite to people you are talking to”, “Conduct yourself in accordance with the rules of the place you are in”, “Express your thoughts in a polite and civilized manner”, “Share only verified information”, “Share your knowledge and respect others’ input into an exchange of knowledge”, “Regulate the process of expressing your emotions—your words and actions may hurt other people”, “Have respect for other people’s private lives and personal boundaries”, “Do not use your authority and abilities to harm others”, “Be tolerant of the shortcomings of those around you”. Respondents were asked to assess how often they follow each rule “In real life” and “On the Internet”, on a Likert scale from 1 (“Never”) to 5 (“Constantly”). We then estimated the subjects’ overall willingness to follow communication rules offline (Cronbach’s alpha was 0.80–0.86 for the different groups) and online (0.84–0.88).
2. The assessment of *user activity* included two items about time spent on the Internet during the week and on the weekend (options were “less than one hour”, “1–3 hours”, “4–5 hours”, “6–8 hours”, “9–12 hours”, and “more than 12 hours”). Cronbach’s alpha was 0.85 in both adolescent groups, 0.80 for young adults, and 0.65 for parents.
3. The *Chen Internet Addiction Scale* (Chen, Weng, Su, Wu, & Yang, 2003) adapted by V.L. Malygin and K.A. Feklisov (Malygin et al., 2011). The questionnaire consists of 26 statements to which four answer options were given (“not at all”, “a little bit”, “partially”, “absolutely”). It includes the following scales: compulsive symptoms, withdrawal symptoms, tolerance, intrapersonal problems, health problems, and time management. An overall index defining propensity for Internet addiction was used.
4. The *Buss-Perry Aggression Questionnaire* (Buss & Perry, 1992; Enikolopov & Tsibulsky, 2007) was used for assessing the overall level of hostility and difficulties controlling it. Only indices for the scales of hostility as a general attitude, and anger as an expression of aggression, were used. The physical aggression scale was not used, as it cannot be applied directly to online activities.
5. The *Tolerance Index Quick Questionnaire* (Soldatova, Kravtsova, Khukhlaev, & Shaigerova, 2008) is used to assess tolerance, including ethnic tolerance (attitude toward representatives of other ethnic groups and attitudes about intercultural interaction), social tolerance (attitude toward such so-

cial groups as minorities, criminals, and mentally ill people), and tolerance as a personality trait. In this study, an overall index was used.

6. The Davis *Multidimensional Empathy Questionnaire* (Interpersonal Reactivity Index, Davis, 1983; Budagovskaya, Dubrovskaya, & Karyagina, 2013) was used to assess *empathy*, with four scales translated into Russian: perspective taking, fantasy, empathic concern, and personal distress. We used the overall index of empathy (Cronbach's alpha 0.71 for adolescents, 0.56 for young adults, and 0.65 for parents).

Adolescents aged 12–13 did not fill out the tolerance and empathy assessment measures, and thus their results were included only at the stage of correlation analysis.

Results

Associations Between Compliance with Communication Rules and Psychological Factors in Adolescents, Young Adults, and Parents

Compliance with communication rules both online and offline does not depend on the average number of devices used for accessing the Internet and is almost unrelated to overall user activity—only for adolescents was average time spent on the Internet during the week and on the weekend slightly negatively correlated to following rules online. Negative correlations between following rules and signs of Internet addiction are more remarkable and reach the significance level in all the groups, which is in line with the concept that it is not online activity by itself, but rather problematic activity, that may be connected to violation of communication rules.

People who are more tolerant, have a high level of empathy and a lower level of anger and hostility, more often abide by communication norms, both online and offline. In parents these associations are slightly weaker than in adolescents and young adults.

It is apparent (see Table 1) that correlations with online and offline communication are almost identical, which is no surprise considering the high correlation between these variables ($r = 0.63$ – 0.77 in different groups). In order to get a variable indicating unique differences in following communication rules online, independent of what happens offline, a regression analysis was made (separately in each group). In this analysis, following communication rules online was a dependent variable and following them offline was an independent one. For each respondent, an index of “residual” variance (so-called error variance) was maintained—i.e. those of his/her features in compliance with communication rules online that are not reduced to what happens offline and cannot be predicted on the basis of offline behavior. In fact, this index defines the difference between following rules offline and online. It can be seen from Table 1 that “genuine” willingness to follow rules online is not associated with anger and hostility, but slightly associated with tolerance, empathy, and the absence of signs of Internet addiction.

Table 1

Associations between aggression, empathy, tolerance, user activity, and compliance with communication rules online and offline: Correlation analysis in different age brackets

	Compliance with rules of communication	Anger	Hostility	Tolerance	Empathy	User activity	Internet addiction
Adolescents aged 14-17	Compliance with communication rules offline	-0.15**	-0.12**	0.22**	0.20**	-0.04	-0.19**
	Compliance with communication rules online	-0.15**	-0.10**	0.22**	0.24**	-0.10**	-0.19**
	Unique variance – compliance with rules online	-0.05	-0.02	0.09**	0.14**	-0.10**	-0.07*
Adolescents aged 12-13	Compliance with communication rules offline	-0.17**	-0.15**	–	–	-0.12**	-0.28**
	Compliance with communication rules online	-0.17**	-0.15**	–	–	-0.09*	-0.21**
	Unique variance – compliance with rules online	-0.08	-0.06	–	–	-0.02	-0.05
Young adults aged 17-30	Compliance with communication rules offline	-0.25**	-0.24**	0.21**	0.25**	-0.02	-0.16**
	Compliance with communication rules online	-0.24**	-0.24**	0.25**	0.23**	-0.01	-0.22**
	Unique variance – compliance with rules online	-0.07*	-0.08*	0.14**	0.07	0.02	-0.15**
Parents	Compliance with communication rules offline	-0.13**	-0.13**	0.19**	0.13**	-0.02	-0.13**
	Compliance with communication rules online	-0.07*	-0.08*	0.21**	0.19**	-0.02	-0.17**
	Unique variance – compliance with rules online	0.05	0.04	0.10**	0.13**	-0.02	-0.12**

Note. * $p < 0.05$, ** $p < 0.01$.

Aggression, Empathy, Tolerance, and User Activity as Predictors of Online Communication: Results of Hierarchical Regression Analysis

To test our hypotheses about the role of empathy and tolerance as being independent of aggression regulation, and about the role of problematic Internet use in groups of adolescents aged 14–17, young adults, and parents, hierarchical regression analysis was performed with groups-moderators (Chaplin, 2007). The

group variable was coded by two binary variables (parents and older adolescents in contrast to young adults—“young adults” was a reference group); the variables of compliance with communication rules offline, anger, hostility, empathy, tolerance, Internet addiction, and user activity were centered (Chaplin, 2007). Variables-moderators were calculated as pairwise products of binary variables of a group with all the others. The analysis was conducted twice—with and without statistical control for following rules offline. In other words, *the first model was aimed at finding general psychological and user predictors of compliance with online communication rules, and the second one at finding predictors of why people do not follow the rules particularly online, in contrast to offline (i.e., the difference between offline and online behavior)*. Variables that were added at each stage of hierarchical analysis are shown in Table 1.

Without statistical control for compliance with the rules offline, the overall regression model explains 21.4% of variance of the variable “compliance with the communication rules online”. In accordance with the model, in all groups the significant predictor of failure to follow rules online is anger, and not hostility. In adolescents aged 14–17 and young adults, anger is a more important factor than it is with parents (comparison of simple regressions: in adolescents $\beta = -0.21$, $p < 0.01$, in young adults $\beta = -0.16$, $p < 0.01$, in parents $\beta = -0.02$, $p > 0.10$). In all the groups, tolerance and empathy are related to greater willingness to follow communication rules, and it seems as though their effects are not reduced to each other and do not depend on respondents’ age bracket. In all respondents, Internet addiction, but not user activity, is related to failure to follow communication rules online. Only for adolescents aged 14–17 can we suggest that following rules online depends on overall user activity (in contrast to problematic Internet use): Whether or not adolescents have signs of addiction, the more time they spend on the Internet, the less they follow communication rules (comparison of simple regressions: in adolescents $\beta = -0.12$, $p < 0.01$, in young adults $\beta = -0.02$, $p > 0.10$, in parents $\beta = 0.04$, $p > 0.10$).

If we examine online and offline differences (i.e., the predictor of a “gap” between online and offline behavior), then the only predictors of following communication rules online that are common for all respondents are tolerance and low level of Internet addiction. Two additional factors distinguish older adolescents from young adults: higher level of empathy (comparison of simple regressions: in adolescents $\beta = 0.11$, $p < 0.01$, in young adults $\beta = 0.03$, $p > 0.10$, in parents $\beta = 0.07$, $p < 0.01$) and lower level of user activity (comparison of simple regressions: in adolescents $\beta = -0.07$, $p < 0.01$, in young adults $\beta = 0.01$, $p > 0.10$, in parents $\beta = 0.01$, $p > 0.10$).

Reviewing the separate stages of both regression analyses allows us to specify the answers to the questions asked above (see Table 2):

1. Parents tend to follow both communication rules in general and online communication rules; adolescents tend to violate communication rules in general. However, this effect in adolescents is not only connected to the digital world, as after statistical control for willingness to follow communication rules offline, this effect disappears.

Table 2

Psychological predictors of following communication rules online: Results of hierarchical regression analysis

Stages of hierarchical regression analysis: independent variables	Compliance with communication rules online without control for offline		Compliance with communication rules online with control for offline	
	β	ΔR^2	β	ΔR^2
Stage 1				
Offline communication rules	–		0.77**	
Offline communication rules \times Adolescents aged 14–17	–		–0.03	
Offline communication rules \times Parents	–	9.1%**	–0.01	60.9%**
Adolescents aged 14–17	–0.08**		–0.01	
Parents	0.25**		0.10**	
Stage 2				
Anger	–0.15**		–0.03	
Hostility	–0.13*		–0.03	
Anger \times Adolescents aged 14–17	–0.03		–0.03	
Anger \times Parents	0.07	2.6%**	0.04	0.2%*
Hostility \times Adolescents aged 14–17	0.14**		0.06	
Hostility \times Parents	0.03		0.02	
Stage 3				
Empathy	0.17**		0.03	
Tolerance	0.11**		0.06*	
Empathy \times Adolescents aged 14–17	0.05		0.05*	
Empathy \times Parents	–0.01	6.7%**	0.02	1.0%**
Tolerance \times Adolescents aged 14–17	0.02		–0.02	
Tolerance \times Parents	0.03		0.00	
Stage 4				
Internet addiction	–0.18**		–0.11**	
Internet addiction \times Adolescents aged 14–17	–0.01	2.6%**	0.02	0.6%**
Internet addiction \times Parents	0.00		0.00	

Stage 5				
User activity	−0.02		0.01	
User activity × Adolescents aged 14–17	−0.07*	0.6%**	−0.06**	0.2%**
User activity × Parents	0.01		−0.01	
General model				
Offline communication rules	−		0.73**	
Offline communication rules × Adolescents aged 14–17	−		−0.04	
Offline communication rules × Parents	−		0.00	
Adolescents aged 14–17	−0.04		0.01	
Parents	0.21**		0.09**	
Anger	−0.11*		−0.02	
Hostility	−0.06		0.02	
Anger × Adolescents aged 14–17	0.02		−0.01	
Anger × Parents	0.08*		0.05	
Hostility × Adolescents aged 14–17	0.05		0.00	
Hostility × Parents	0.02		0.00	
Empathy	0.19**	21.4%**	0.04	62.9%**
Tolerance	0.09**		0.06*	
Empathy × Adolescents aged 14–17	0.06		0.05*	
Empathy × Parents	−0.01		0.03	
Tolerance × Adolescents aged 14–17	0.00		−0.02	
Tolerance × Parents	0.02		0.00	
Internet addiction	−0.18**		−0.11**	
Internet addiction × Adolescents aged 14–17	0.01		0.04	
Internet addiction × Parents	0.00		0.00	
User activity	−0.02		0.01	
User activity × Adolescents aged 14–17	−0.07*		−0.06**	
User activity × Parents	0.01		−0.01	

Note. * $p < 0.05$, ** $p < 0.01$.

2. If we take features of emotion regulation as primary psychological predictors, then both anger and hostility are related to violation of communication rules, though the role of hostility is more obvious in young adults than in adolescents, and parents are somewhere in between (comparison of simple regressions: in adolescents $\beta = 0.07$, $p > 0.10$, in young adults $\beta = -0.13$, $p < 0.05$, in parents $\beta = -0.06$, $p > 0.10$). Furthermore, measuring in the offline communication model leads to disappearance of the effects of both anger and hostility — in other words, these are non-specific factors that are more related to communication in general than to explaining online and offline differences. Moreover, even in relation to general compliance with communication rules, the effect of anger is constant, whereas the effect of hostility disappears when the other variables are introduced.
3. Tolerance and empathy are related to better compliance with communication rules. However, only tolerance predicts polite communication specifically online, whereas, after statistical control for offline behavior, the role of empathy is retained only in adolescents.
4. High user activity has a specific connection to the worst compliance with communication rules online; however, it is problematic Internet use (signs of addiction) that is relevant. The effect of user activity is only observed in adolescents.

Discussion

For this paper, the initial data (Figure 1) showed that as people get older, they not only tend more to follow the rules of communication, but their willingness to follow the rules online increases and gradually “catches up with” their offline behavior. Moderation analysis clarifies this result by showing that while in the case of adolescents we are talking about a general inclination to violate the rules (both online and offline), compared to young adults and parents, and the fact that this is not specific to the online world (it disappears after statistical control for offline behavior), with the parents we see a reduction of the discrepancy between the online and offline worlds compared to young adults and adolescents. This suggests that for an adult with established communication norms, the online world does not seem to be essentially new compared to the offline world. Note that a person with long-held beliefs and values is more likely to follow these beliefs online, even if violating them is to this person’s advantage and does not threaten negative consequences. On the other hand, we can see a discrepancy between offline and online behavior in young adults and adolescents. Although it is a constant discrepancy — it is not greater in adolescents than in young adults — it is more likely that the Internet is very good space where adolescents can “post” their general effort to resist rules and norms.

This raises the question of what factors (aggression regulation, tolerance and empathy, user activity features) may promote following rules and reduction of the discrepancy between offline and online behavior in adolescents. Are they universal or specific to adolescence?

The results of correlation analysis have shown that although adolescents who spend more time on the Internet are in general a little bit less oriented toward polite and respectful communication, even in these groups relationships are weak. That

is why there are no grounds for assigning to the Internet on its own the role of a “destroyer” of communication rules. There is more reason to suggest that online communication depends on emotional features (anger and hostility) and communication features (tolerance, empathy), and among user activity factors, problematic (and not just any) Internet use is more important. As we have said, willingness to follow communication rules online and willingness to do so offline are more similar than different. Already at the stage of correlation analysis, the difference between online and offline communication is related not to difficulties with aggression regulation (anger and hostility), but to empathy, tolerance, and absence of signs of Internet addiction. In other words, difficulties with aggression regulation are more likely to be a general than a specific factor and to determine a person’s general attitude in any communication. On the other hand, tolerance and empathy may perform both general tasks to promote consideration and acceptance of other people and specific tasks in the online world, thereby reducing the discrepancy between online and offline behavior.

Moderation analysis allows us to specify these results (although, due to the correlation design of this study, unambiguous conclusions regarding cause-effect relations cannot be reached):

Role of aggression regulation. We can suggest that general willingness to follow rules is related to aggression regulation in all the groups, both in the form of disposition (hostility) and in the form of regulation of expressing aggression (anger). But only the effect of anger is retained after adding the other variables, and the effect of hostility is less expressed in adolescents than in young adults (where it is at the maximum). On the one hand, this suggests that the hostility is related to following communication rules not directly but, for example, through its association with Internet addiction, since it is the addition of this variable that reduces the effect of hostility, and the effect is clearly observed only in adolescence. Examination of this hypothesis requires a separate mediation analysis and a longitudinal study design. On the other hand, the effect of hostility appears to be generally less clear and less constant than the effect of anger. Anger and hostility are not related to the discrepancy between online and offline communication. Practically speaking, this means that interventions to improve aggression regulation are justified in adolescence (as in adulthood) if they are aimed at working with its expression rather than with general hostility. The effect of such interventions is unlikely to be specific to online communications. Hostility is likely to be seen as a potential target (also non-specific) of psychological work or as a sign of a risk group only in adolescence.

Role of tolerance and empathy. Empathy and tolerance allow us to predict compliance with the rules online, after statistical control for hostility and anger. In other words, showing consideration for other people, an ability to see from another person’s perspective and to empathize with this person, are related to politer and more reciprocal communication online, even in people with a high level of hostility and anger. Moreover, the discrepancy between online and offline behavior, which does not depend on aggression regulation, is specifically related to a low level of tolerance, and in adolescents it is also related to a low level of empathy. From our point of view, this result allows us to define a system of priorities for practical interventions. Thus, it can be assumed that even in case of difficul-

ties with aggression regulation, psychological work aimed at the development of empathy and tolerance can be effective for improving online communication; its effect is not only general, but also specific in terms of reducing the discrepancy between online and offline behavior. In adolescents, where this discrepancy is at its maximum, the development of empathy becomes a “support” for the psychologist, in addition to tolerance.

Role of user activity and propensity for Internet addiction. Problematic Internet use (propensity for Internet addiction) is important for predicting both general willingness to violate communication rules online and a discrepancy between online and offline behavior. With regard to user activity, no such effect has been found: Willingness to violate communication rules online is more likely to be associated with signs of excessive use of the Internet, including the gradual sacrifice of other areas of life not related to addiction (Griffiths, 2010), rather than how much time a person spends on the Internet. However, it should be noted that there is an independent effect of user activity in adolescents; adolescents who spend a lot of time on the Internet more often violate communication rules online and have a greater difference between their online and offline indices. It is interesting that this effect does not support the idea that adolescents who use the Internet more often are more tolerant and thus more considerate to others (Seebruck, 2013). Practically speaking, this shows that in all psychological work aimed at improving online communication, an evaluation of whether there is Internet addiction should be made, and problematic Internet use itself is a target for intervention in all cases. In adolescents, spending a great deal of time every day on the Internet can be considered a risk factor, even if they deny signs of Internet addiction.

Conclusion

Adolescents in general are a “risk group” for not following Internet etiquette, but this is due to their general propensity not to follow communication rules. In fact, online indices “catch up with” offline indices only in the parents’ group, which suggests that in adulthood regulation of communication, both online and offline, is determined by stable and less context-dependent personal norms, values, and beliefs. In both adults and adolescents, the target for psychological interventions may be features of aggression regulation (but more likely expressed as anger than hostility as a stable disposition), developing tolerance and empathy, and overcoming the signs of Internet addiction. However, only tolerance, low propensity to Internet addiction, and—in adolescents—also empathy and a low level of user activity, are associated with reducing the discrepancy between online and offline communication.

Limitations

The limitations of this study are primarily in the characteristics of the sample. While the sample of young adults and adolescents is balanced by gender, the sample of parents was mostly women (80.6%). Respondents were residents of large cities. These sampling features may limit generalization of the results.

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The Level of Multidimensional Perfectionism and Motivational Orientation among Undergraduate Students

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Background. Perfectionism is a multidimensional personality trait related to an individual's desire to achieve optimal performance. From this perspective, perfectionism plays an important role in students' motivation and their interpretation of the contexts for achievement. However, perfectionism which is encouraged by the views of others may result in increased performance levels of undergraduate university students.

Objective. This study sought to identify the level of multidimensional perfectionism and motivational orientation among a group of undergraduate students in Jordan, while also investigating the relationship between multidimensional perfectionism and motivational orientation.

Design. To collect the data, questionnaires measuring multidimensional perfectionism and motivational orientation, were administered to a sample of 406 male and female undergraduate students at Hashemite University and Al-Hussein Bin Talal University during the academic year 2016/2017.

Results. It was shown that the level of multidimensional perfectionism and motivational orientation was moderate, with no significant differences between the dimensions of multidimensional perfectionism and motivational orientation attributable to gender. Moreover, the results showed a positive and statistically significant relationship between the multidimensional perfectionism and motivational orientation subscales.

Conclusion. Our study provides valuable insight into perfectionist trends and their relationship to motivational orientation in Arab countries. It contributes to the literature by demonstrating that perfectionism contributes to performance and achievement through its relationship to motivational orientation.

Keywords:

Multidimensional perfectionism, motivational orientation, intrinsic-extrinsic motivation, undergraduate students

Introduction

Alfred Adler (1956) was one of the first theorists to identify perfectionism as a key element in personality development. He claimed that each individual has an ideal self-image of being strong, superior, and complete, and that this image becomes a goal he spends a lifetime striving to achieve. Adler therefore viewed the struggle for perfection as a normal human phenomenon inseparable from the instinct to survive; a person's innate tendency to strive for pre-eminence and superiority lies at the core of his theory of individual psychology. It was also his contention that this innate predisposition contributes toward the individual's problem-solving ability, as well as toward recognition of his potential. But Adler perceives the overwhelming desire for perfection as being adaptive only when moderated by social interest, while the lack of social interest can result in maladaptive perfectionism, which is manifested in unrealistic goals and unrealistically high standards demanded for the achievement of such goals.

Ellis (1958) and Horney (1970) explained perfectionism as an individual's obsession with achievement of superior intellectual and moral standards, and specified it as a mainly self-sponsored type of neurosis. Hamachek's (1978) conceptualization of perfectionism as a contradictory paradigm suggesting the existence of a both normal and neurotic perfectionism, has been embraced by empirical studies on a global scale. The normal perfectionist is seen as being highly motivated to attain autonomously-set standards of achievement, while however, recognizing and accepting personal limitations in pursuance of the sought-after goals. Hamachek (1978) further defined normal perfectionists as deriving great enjoyment and satisfaction in expending the maximum meticulous effort in fulfilling a set task, while at the same time allowing for a certain relaxation in adhering precisely to an exacting regimen when the situation permits. The normal perfectionist seeks appreciation and endorsement much as everyone does, with the benefit from approval being manifest in a sense of positive well-being which encourages and reinforces his/ her determination to intensify his/her efforts.

Burns (1980) defined perfectionism as an unrelenting endeavor to achieve objectives, whereby self-esteem is based upon striving towards goals and measuring one's self-worth based upon success and achievement. Pacht (1984), however, defined perfectionism as the determination to achieve unattainably high standards in order to gain approbation from those whose esteem and approval is deemed important.

The environment and conditions contributing to the development of perfectionism are necessarily of interest to researchers, and include various aspects of parenting, particularly relative to the three types of parental approval: non-approval; inconsistent approval; or conditional approval. The child raised in a non-approval or inconsistent approval environment has difficulty in developing a perception of the characteristics required to rate his standard of performance or achievement, since his/her parents deem any performance falling short of perfection to be unacceptable (Frost, Lahart, & Rosenblate, 1991). Therefore, in this environment, the child associates love and approval as conditional on a certain acceptable level of results (Frost et al., 1991). This was also commented on by Hollender (1965), and Hamachek (1978), who stated that in order to

achieve the approbation of perfectionist parents, a child would continually strive to attain the standards necessary. Burns (1980), reported that when parents predictably react to high performance with rewards and acceptance, while his/her mistakes and poor achievement result in parental disappointment and negative reactions, then the child construes such reactions as failure to achieve resulting in punishment or rejection demonstrated by loss of parental acceptance. Blatt (1995), states that a wide range of parental attitudes, ranging from excessive control, criticism, and abuse, to neglect and rejection, may, over a period of time, be adopted by the child, and thus become the motivation for the child's search for self-perfection.

This reaction is reflected in the characteristics of perfectionism identified by Flett & Hewitt (2002) and Frost et al. (1990): namely, a striving for flawlessness, setting excessively high standards, and being extremely critical of one's own performance and behavior. Until the early 1990s, perfectionism had been regarded as one-dimensional, but as a result of its differentiation into two main types, it has come to be seen as multidimensional (Riley & Shafran, 2005). In their paper, Frost et al. (1990), proposed five dimensions of perfectionism: 1) a tendency to construe mistakes as failure, resulting in loss of respect; 2) setting unrealistically high standards of personal achievement which are often unattainable; 3) striving, often unsuccessfully, to achieve the high standards set by parental expectations; 4) receiving excessive parental criticism; and 5) lacking confidence about one's actions and doubting the quality of one's performance. An additional sixth dimension was a strong tendency towards precision, orderliness, and organization (Alden, Ryder, & Mellings, 2002; Frost et al., 1993; Frost, Lahart, & Rosenblate, 1991; Frost et al., 1990; Frost et al., 1995).

In their study, Hewitt and Flett (1991) identified three dimensions of perfectionism. The first was self-orientation, wherein the individual himself sets unrealistic standards of achievement, strives to attain them in an attempt to avoid failure, is excessively self-critical, and consistently focuses on his perceived faults and flaws. They termed the second other-directed perfectionism, in which the individual views others as being able to achieve unrealistically high standards, views them as competition, and consequently strives to match or better their performance. The third dimension is socially-prescribed perfectionism, in which the individual is convinced that he must fulfill what he believes to be others' perception of him (Blankstein & Winkworth, 2004; Flett et al., 1995; Hall, 2006; Hewitt & Flett, 1991a; Hewitt & Flett, 1991b; Hewitt, Flett, & Turnbull, 1992a; Hewitt, Flett, & Weber, 1994; Hewitt, Newton, Flett, & Callander, 1997; Kobori, Yamagata, & Kijima, 2005).

Other researchers have differentiated two major dimensions of perfectionism (Stoeber & Otto, 2006), one a positive or adaptive dimension described as normal and healthy, and the other a negative or maladaptive dimension described as neurotic and unhealthy (Campbell & Di Paula, 2002; Flett & Hewitt, 2002b; Hamachek, 1978; Rice & Preusser, 2002; Peters, 2005; Slaney, Rice, & Ashby, 2002; Stumpf & Parker, 2000; Terry-Short, Owens, Slade, & Dewey, 1995). In his study, Hamachek (1978) reasoned that striving for perfectionism can be considered a normal endeavor and may result in positive adjustment, describing "normal perfectionism",

as, on the one hand, striving to achieve realistic goals which, when accomplished, effectively enhance self-esteem and satisfaction, and on the other hand, accepting both personal and environment-induced limitations.

In recent years there have been increasing references to an analogous concept, that of positive perfectionism, whereby the individual is self-motivated, and has the will and readiness to respond to the challenge of high achievement. The resultant rewards of success heighten self-esteem and self-assurance. Thus, the positive perfectionist sets high personal goals and standards, and is prepared to make the effort required to attain achievement-associated rewards, while at the same time being satisfied with his performance (Accordino, Accordino, & Slaney, 2000; Blackburn, 2003; Davis, 1997; Hamachek, 1978; Rheaume et al., 2000). The positive outlook thus described is associated with social activity and frequent positive, satisfaction-inducing events (Watson, Clark, & Tellegen, 1988). Flett & Hewitt (2002b), in their paper, see positive perfectionism as an adaptive concept which, while encouraging positive action towards high achievement, allows the individual to maintain a balanced and proportionate attitude in his/her perfectionism, and thus engenders high performance and success.

On the other hand, Hamachek (1978) described neurotic perfectionism, where the individual sets excessively high standards and is constantly hypercritical of his own conduct and performance (Frost et al., 1990). The neurotic perfectionist is driven by fear of failure and is incapable of tolerating any imperfection however small and insignificant; thus, he/she is constantly burdened by anxiety and lack of confidence regarding his/her competencies. The neurotic perfectionist is therefore in direct contrast to the normal perfectionist, who still regards his performance as successful despite minor flaws (Flett & Hewitt, 2002b; Hamacheek, 1978; Pacht, 1984; Parker & Adkins, 1995).

According to Hewitt and Flett (1991a), the level and type of motivation in both self-oriented and socially-prescribed perfectionism may be associated with the impact of one potential factor. Elaborating on this concept in their study (1991b), the researchers suggest a more inherent and intrinsic form of motivation in self-oriented perfectionism, since it is characterized by an integral personal need for self-improvement and ultimate perfection. Whereas self-motivated perfectionism is deemed intrinsic, the motivational source for socially-prescribed perfectionism is extrinsic, characterized by feelings of frustration at the inability to exercise any effective personal impact on arbitrarily imposed evaluative standards. These feelings are also the result of a deep desire for approbation, as well as the wish to avoid punishment (Flett et al., 1994; Hewitt & Flett, 1991a).

Motivation is defined as the urge that stimulates an individual to participate in an activity. Intrinsic motivation is to perform an activity for its inherent gratification rather than for a specific result (Ryan & Deci, 2000). Intrinsic motivation is the personal internal incentive to engage in an activity (Amabile, 1983a; Lepper & Green, 1978). In their publication, Ryan & Deci (2000) defined extrinsic motivation as performing an action because of a probable outcome, meaning that the self-motivation involved in the performance of such an act is stimulated by external factors. In an earlier study, Deci et al. (1981) stated that intrinsic motivation could be negatively affected by detrimental social conditions, particularly when encoun-

tered in educational and working environments. This view was upheld by Amabile's research (1983b).

Extensive research, including experimental work on intrinsic and extrinsic motivation and the effect of socially prescribed standards, has shown an increase in the level of extrinsic motivation to be associated with a decreased level of intrinsic motivation. Research by Deci & Ryan (1985), and Ryan (1982) showed the detrimental effect of controlling feedback which reinforced the perception of meeting externally imposed criteria, resulting in reduced intrinsic motivation and increased negativism, given the definition of self-determined motivation as the degree to which an individual participates in an activity by personal choice and/or enjoyment (Deci & Ryan, 1985, 1991, 2000). A number of researchers state that the relationship between the particular style of perfectionism and the type of motivational orientation suggests that self-oriented perfectionism is associated with self-determined forms of motivation, whereas socially-prescribed perfectionism is associated with non self-determined forms of motivation (Blais, Sabourin, Boucher, & Vallerand, 1990; Ryan & Connell, 1989; Vallerand & Bissonnette, 1992; Vallerand, Fortier, & Guay, 1997).

On reviewing the literature, we found that dimensions of both perfectionistic concerns and perfectionistic strivings correlated positively with fear of failure, but the larger correlations were generally shown by perfectionistic concerns, thus signifying the stronger, more consistent associations with fear of failure. Furthermore, studies by Sagar & Stoeber (2009); Stoeber & Becker (2008); and Stoeber & Rambow (2007), showed that where the two-dimension overlap was statistically controlled, the perfectionist strivings dimension showed no positive relationship with fear of failure; on the contrary, negative relationships with fear of failure were illustrated in two out of the three studies (Sagar & Stoeber, 2009; Stoeber & Becker, 2008).

This variation in patterns between variety and unique relationships, according to Stoeber & Gaudreau (2017), indicates that the positive relationship between perfectionistic strivings/perfectionistic concerns and the fear of failure, may possibly be the cause of, and indeed even suppress, potential negative relationships with fear of failure. By contrast, no change was evident in the relationship patterns shown in perfectionist concerns when the overlap with perfectionistic strivings was controlled, while positive relationships between perfectionistic concerns and fear of failure persisted in all its dimensions. Although no significant relationships were seen between the future, perfectionistic concerns and the hope of success, positive relationship with perfectionistic strivings continued to be seen (Stoeber, Damian, & Madigan, 2018).

Bi-variate correlations were reported by a number of studies examining the relationship between perfectionistic strivings and concerns, and task and ego objectives (Appleton, Hall, & Hill, 2009; Hall, Kerr, Kozub, & Finnie, 2007; Lemyre, Hall, & Roberts, 2008; Nerland & Saether, 2016). Regarding task objectives, while the majority of the studies reported perfectionistic strivings as showing positive correlations, the studies by Lemyre, Hall and Roberts (2008), and Nerland and Saether (2016), reported no significant correlations. The two perfectionism dimensions do, however, exhibit comparable profiles in two motivational qualities: firstly

in performance-approach goals, since despite their being generally avoidance-oriented, perfectionistic concerns also illustrate unique positive relationships with performance-approach objectives. The dual-process performance model cannot explain this, but it can, according to Elliot (1997), be explained by the hierarchical model of achievement motivation. Consistent with this model, the motivations for performance-approach objectives are both hope of success and fear of failure, thus explaining the positive relationships shown by the association of perfectionistic strivings with the hope of success, and perfectionistic concerns' association with fear of failure.

Future, performance-approach objectives may involve dual orientations: a standard one, comparing one's own performance with that of others, and as competence demonstration attempting to prove superiority. Although these appear similar, only the performance comparison is in fact achievement-motivated, while the competence demonstration is, according to Senko, Hulleman, & Harackiewicz (2011), predominantly self-presentational. This fact may clarify the situation wherein the two perfectionism dimensions are associated with performance-approach objectives.

The link between performance-approach objectives and perfectionistic strivings may occur due to achievement-motivation characteristics, while in the case of perfectionistic concerns, the association is due to self-presentational characteristics. Research by Shim & Fletcher (2012) and Stoeber (2014), supports this reasoning, since it showed that perfectionistic concerns had positive correlations with demonstration-approach objectives, but that this was not the case for perfectionistic strivings.

The result of our review of the above studies investigating multidimensional perfectionism from the standpoint of self-determination theory reveals that, as stated by Stoeber & Gaudreau (2017), when the unique relationship between two perfectionism dimensions is examined, perfectionistic concerns also show distinctive and particularly evident motivational potentials regarding self-determined motivation. On the other hand, the perfectionistic strivings dimension is associated in the main with motivation and forms of governance characterized by greater self-determination, such as intrinsic motivation, integration, and identified regulation. These are in contrast to the perfectionistic concerns, which are generally associated with a lower-degree of self-determination, motivations, and regulatory precepts, including motivation, and external and interjected regulation. Nevertheless, Stoeber, Damian, and Madigan (2018) found that, even when the overlap with perfectionistic concerns is controlled, perfectionistic strivings may also show positive relationships with interjected and external regulation, which suggests that some identified motivational qualities may be apparent in the weaker self-determined regulation domain.

Stoeber and Eismann (2007) investigated how different facets of perfectionism were related to motivation, effort, achievement, and distress in 146 young musicians. The results showed that striving for perfection was associated with intrinsic motivation whereas negative reactions to imperfection were associated with extrinsic motivation.

Stoeber and Becker (2008) investigated how two facets of perfectionism — perfectionism strivings and negative reactions to imperfection — were related to

achievement motives and attributions of success and failure in 74 female soccer players. The results showed that striving for perfection was related to both the hope of success and egotistical designations of success.

Stoeber, Feast, and Hayward (2009) examined how the two forms of perfectionism (self-oriented and socially prescribed) were related to intrinsic-extrinsic motivation by testing anxiety levels in 104 university students. The results showed positive correlations between self-oriented perfectionism and intrinsic reasons for studying, and a positive correlation between socially prescribed perfectionism and extrinsic reasons for studying.

Appleton and Hill (2012) investigated the relationship between dimensions of perfectionism (self-oriented and socially prescribed) and motivation regulations and athlete burnout in 231 elite junior athletes. The results showed a significant relationship between self-oriented perfectionism and intrinsic motivation.

Chang, Lee, Byeon, and Lee (2015) examined the relationship between perfectionism traits, motivation types, and academic burnout in 238 Korean adolescent students. The results showed positive correlations between self-oriented perfectionism and levels of intrinsic motivation, and between socially-prescribed perfectionism and levels of extrinsic motivation.

In the present study we have expanded on this body of work by examining the dimensionality of the perfectionism construct in a sample of Jordanian university students. In Jordan, there has been little empirical study into multidimensional perfectionism. Therefore, one purpose of this study was to determine the level of multidimensional perfectionism (self-oriented, other-directed, and socially prescribed) and motivational orientation (intrinsic or extrinsic), while the second purpose was to examine the relationship between multidimensional perfectionism (self-oriented, other-directed, and socially prescribed) and the type of motivational orientation (intrinsic or extrinsic).

Methods

Participants

The participants in our sample were 406 undergraduate students, 117 male and 289 female, from Hashemite University and Al-Hussein Bin Talal University in Jordan. They were volunteers from a second-year Introductory Course in Educational Psychology, with a mean age of 20.3 years ($SD=3.6$).

Measures and procedures

Multidimensional Perfectionism Scale (MPS)

The Multidimensional Perfectionism Scale (MPS), developed by Hewitt & Flett (1991), comprises 45 items. It consists of three subscales: 1) self-oriented perfectionism (15 items, e.g. "One of my goals is to be perfect in everything I do"); 2) other-directed perfectionism (15 items, e.g. "Everything that others do must be of top-notch quality"), and 3) socially-prescribed perfectionism (15 items, e.g. "It doesn't matter when someone close to me does not do their absolute best"). The respondents are asked to rate their agreement or disagreement with the statements based

on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree), with the higher scores on each of the three scales reflecting higher levels of perfectionism. Many research studies attest to the reliability and validity of the MPS, with Cronbach's alpha confidence ranging between 0.74 to 0.89 in different studies.

In this study the MPS was translated from English into Arabic by two faculty members fluent in English and Arabic. A rigorous translation verification process, including forward-backward translation, was conducted to ensure an Arabic version of the MPS in which the items and constructs were synonymous with the original English version.

A further evaluation was then conducted by members from three faculties of Hashemite University, who did not participate in the forward-backward translation process, as an additional safeguard towards ensuring equivalency in both the original English and the back-translated versions. If discrepancies were found, those items were again subjected to the forward-backward translation process until the faculty members were satisfied that there was a substantive equivalence of meaning. A pilot version of the Arabic MPS subsequently tested by a group of 25 students, to collect feedback on instrument content and usage, resulted in no significant changes.

A further pilot test was conducted with a group of 150 students enrolled in the Faculty of Educational Science at Hashemite University who were subsequently excluded from the actual sample of the study.

To check the validity of the MPS Arabic version, the authors tested the confirmatory factor analysis by using principal component analysis method. The results of confirmatory factor analysis loaded on three factors with a total explained variance of 49.24%. Results of the three factors total explained variance are presented in *Table 1*.

Table 1
Factors total explained variance

Variables	Eigen value	Variance explained	Total variance explained
Factor 1	9.048	20.109	20.109
Factor 2	7.245	16.01	36.209
Factor 3	5.901	13.122	49.241

Note: (factor loadings below 0.35 are omitted. KMO= 0.66, Bartlett test= 1963.338, df= 990, Sig= 0.00).

Also, factor loadings of each item of the MPS Arabic version were conducted though the same sample used in the pilot study (n= 150 students); the value of each item is presented in *Table 2*.

The same group of students was used to examine the readability of the MPS; internal consistency was determined by test-retest. The results are presented in *Table 3*.

Table 2

Factor loading of each items in the MPS Arabic version

Items	Factor	Items	Factor	Items	Factor	Items	Factor	Items	Factor
1.	0.532	10.	0.591	19.	0.666	28.	0.632	37.	0.633
2.	0.650	11.	0.531	20.	0.475	29.	0.569	38.	0.546
3.	0.572	12.	0.505	21.	0.472	30.	0.645	39.	0.563
4.	0.453	13.	0.452	22.	0.376	31.	0.480	40.	0.422
5.	0.503	14.	0.702	23.	0.579	32.	0.390	41.	0.571
6.	0.684	15.	0.483	24.	0.543	33.	0.491	42.	0.549
7.	0.445	16.	0.707	25.	0.404	34.	0.372	43.	0.698
8.	0.358	17.	0.364	26.	0.495	35.	0.543	44.	0.372
9.	0.625	18.	0.599	27.	0.763	36.	0.541	45.	0.502

Table 3

Value reliability test-retest and Cronbach's alpha form the multidimensional perfectionism subscale

Variables	test-retest	Cronbach's alpha
Self-oriented perfectionism	0.74*	0.69*
Other-oriented perfectionism	0.76*	0.71*
Socially-prescribed perfectionism	0.73*	0.68*

*($P=0.01$).

Table 3 shows the test-retest reliability co-efficient as 0.74, 0.76, and 0.73 respectively for self-directed, other-directed, and socially-prescribed perfectionism. The Cronbach's alpha result was 0.69, 0.71, and 0.68 respectively for self-oriented, other-directed, and socially-prescribed perfectionism.

Motivation Orientation Scale (MOS)

The Motivation Orientation Scale (MOS), developed by Cain (2008), consists of 30 items distributed over two main dimensions: 1) Intrinsic Motivation, comprising 17 items to measure three subscales (challenge, six items; curiosity, six items and independent mastery, five items) and 2) Extrinsic Motivation comprising 13 items to measure two subscales (easy work, seven items; and dependence on professor, six items). The items were rated on a 5-point Likert scale as follow: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree. The MOS showed a Cronbach alpha reliability coefficient of 0.90 for intrinsic motivation and 0.78 for extrinsic motivation.

In this study the MOS was translated from English into Arabic by two bilingual faculty members, with the entire translation process being subjected to strict scrutiny and highly demanding verification procedures to ensure veracity and authentication, including forward-backward and backward-forward translation. A further evaluation was then conducted by members of three faculties from Hashemite University, who did not participate in the forward-backward translation process. In addition, cases of discrepancy in meaning were independently investigated and revised to ensure an Arabic version of the MOS items synonymous in meaning with the original English version. Feedback data obtained from a pilot version of the Arabic MOS tested by a group of 25 students resulted in no significant changes.

A further pilot test was conducted with a group of 150 students enrolled in the Faculty of Educational Science at Hashemite University who were subsequently excluded from the actual sample of the study.

To check the validity of MOS Arabic version, the authors tested the confirmatory factor analysis by using the principal component analysis method. The results of confirmatory factor analysis loaded on three factors with a total explained variance of 54.84%. The results of the three factors total explained variance are presented in *Table 4*.

Table 4
Factors total explained variance

Variables	Eigen value	Variance explained	Total variance explained
Factor 1	4.835	16.118	16.118
Factor 2	2.806	9.352	25.470
Factor 3	1.871	6.238	31.708
Factor 4	1.649	5.495	37.203
Factor 5	1.526	5.088	42.291
Factor 6	1.332	4.440	46.732
Factor 7	1.223	4.076	50.808
Factor 8	1.211	4.038	54.846

Note: (factor loadings below 0.35 are omitted. KMO= 0.70, Bartlett test= 1088.289, df= 435, Sig= 0.00)

Also, factor loadings of each item of the MOS Arabic version was conducted though the same sample of a pilot study ($n= 150$ students). The value of each item is presented in *Table 5*.

Test-retest and internal consistency of MOS readability were determined using the same students as those in the pilot study. The MOS readability values are presented in *Table 6*.

Table 5

Factor loading of each item of the MOS Arabic version

Items	Factor	Items	Factor	Items	Factor	Items	Factor	Items	Factor
1.	0.416	7.	0.514	13.	0.800	19.	0.677	25.	0.612
2.	0.569	8.	0.641	14.	0.769	20.	0.386	26.	0.803
3.	0.769	9.	0.536	15.	0.449	21.	0.757	27.	0.641
4.	0.623	10.	0.381	16.	0.616	22.	0.385	28.	0.753
5.	0.783	11.	0.641	17.	0.626	23.	0.772	29.	0.759
6.	0.853	12.	0.535	18.	0.507	24.	0.412	30.	0.747

Table 6

Value reliability test-retest and Cronbach's alpha for the motivational orientation subscale

Variables	test-retest	Cronbach's Alpha
Intrinsic motivation	0.89*	0.86*
Challenge	0.78*	0.75*
Curiosity	0.77*	0.74*
Independent mastery	0.79*	0.74*
Extrinsic motivation	0.82*	0.79*
Easy work	0.77*	0.73*
Dependence on professor	0.74*	0.69*

*($P = 0.01$).

Table 6 shows a test-retest reliability coefficient of 0.89, 0.78, 0.77, 0.79, 0.82, 0.77, and 0.74 respectively for intrinsic motivation, challenge, curiosity, independent mastery, extrinsic motivation, easy work, and dependence on professor. The Cronbach's alpha results were 0.86, 0.75, 0.74, 0.74, 0.79, 0.73, and 0.69 respectively for intrinsic motivation, challenge, curiosity, independent mastery, extrinsic motivation, easy work, and dependence on professor.

Data collection and analysis

Data was collected during the first semester of the 2016/2017 academic year, following a meeting with the student participants during which the researcher described the purpose and methodology of the study, emphasizing his assurance of confidentiality regarding the participants' identities and other personal data. Participants were then required to provide demographic information and to complete the multidimensional perfectionism and motivational orientation scales.

The current study had two objectives, the first of which was to determine the level of multidimensional perfectionism and type of motivational orientation of the Hashemite University and Al-Hussein Bin Talal University students with respect to each dimension. This objective was realized using descriptive statistics including means, standard deviations, and an independent sample t-test. The second research objective was to examine the correlation between multidimensional perfectionism and motivational orientation, with results from Pearson correlation and multiple regression analyses. Analysis of the three research objectives used SPSS 17.

Results

To determine the level of multidimensional perfectionism and motivation orientation among undergraduate students in Jordan, we used illustrative statistics including means and standard deviation. We interpreted levels of multidimensional perfectionism and motivational orientation as follows: below 3 = low; 3-4 = medium; above 4 = high.

Table 7

Means (M) and Standard Deviation (SD) of multidimensional perfectionism and motivational orientation

Variables	M	SD
Multidimensional perfectionism		
Self-oriented perfectionism	3.61	.47
Other-directed perfectionism	3.46	.46
Socially-prescribed perfectionism	3.52	.47
Motivational orientation		
Intrinsic motivation	3.47	.73
Challenge	3.39	.75
Curiosity	3.52	.71
Independent mastery	3.51	.73
Extrinsic motivation	3.32	.73
Easy work	3.33	.71
Dependence on professor	3.32	.75

As shown in *Table 7*, the mean for overall self-oriented perfectionism was 3.61, socially-prescribed perfectionism was 3.52, and other-directed perfectionism 3.46, indicating a moderate level of multidimensional perfectionism. The mean for overall intrinsic motivation was 3.47 (for curiosity was 3.52, for independent mastery 3.51, and for challenge 3.39). The mean for extrinsic motivation was 3.32, (for easy work was 3.33, and for dependence on professor 3.32), also indicating a moderate level of motivational orientation.

To determine whether significant differences exist between the level of multidimensional perfectionism and motivational orientation according to gender, we did a t-test, and measured means and standard deviation for each dimension (See Table 8).

Table 8

T-test analysis of gender differences in multidimensional perfectionism and motivational orientation

Variable	Gender	N	Mean	SD	T	df	Significance
Self-oriented perfectionism	Male	117	3.63	0.54	0.166	404	0.86
	Female	289	3.62	0.40			
Other-directed perfectionism	Male	117	3.50	0.46	0.947	404	0.34
	Female	289	3.45	0.45			
Socially-prescribed perfectionism	Male	117	3.27	0.47	0.688	404	0.49
	Female	289	3.24	0.41			
Intrinsic motivation	Male	117	3.44	0.67	-0.578	404	0.56
	Female	289	3.48	0.59			
Extrinsic motivation	Male	117	3.29	0.66	-0.522	404	0.60
	Female	289	3.32	0.54			

As shown in Table 8, there were no significant differences in multidimensional perfectionism and motivational orientation attributable to the students' gender.

Table 9

Correlation matrix of multidimensional perfectionism and motivational orientation

Variable	Self-oriented perfectionism	Other-directed perfectionism	Socially-prescribed perfectionism
Intrinsic motivation	0.39*	0.23*	0.33*
Challenge	0.32*	0.17*	0.29*
Curiosity	0.36*	0.15*	0.26*
Independent mastery	0.31*	0.27*	0.29*
Extrinsic motivation	0.38*	0.30*	0.32*
Easy work	0.29*	0.29*	0.28*
Dependence on professor	0.34*	0.20*	0.24*

*($P = 0.01$).

Table 9 shows a positive and statistically significant relationship at the level ($\alpha = 0.01$) between the multidimensional perfectionism and motivational orientation subscales.

Multiple regression analysis:

Table 10 shows the results of the step-regression analysis using multidimensional perfectionism as a predictor of motivational orientation. It shows that self-oriented perfectionism, other-directed perfectionism, and socially-prescribed perfectionism are significant predictors of intrinsic motivation: $R^2 = 0.168$, $F = 27.108$, $P < 0.005$. These results were supported by the close-to-moderate correlation between three variables ($r = 0.410$); approximately 16.8% of the variance in student intrinsic motivation was accounted for by multidimensional perfectionism. Self-oriented perfectionism, other-directed perfectionism, and socially-prescribed perfectionism are significant predictors of extrinsic motivation: $R^2 = 0.153$, $F = 25.317$, $P < 0.005$. These results were supported by the close-to-moderate correlation between three variables ($r = 0.399$); approximately 15.3% of the variance in student extrinsic motivation was accounted for by multidimensional perfectionism.

Table 10

Hierarchical regression of multidimensional perfectionism and motivational orientation

multidimensional perfectionism		R	R ²	F	β	T	sig
Self-oriented perfectionism					0.337	5.274	0.00
Other-directed perfectionism	Intrinsic motivation	0.410	0.168	27.108	-.066	-1.046	0.29
Socially-prescribed perfectionism					0.149	2.197	0.02
Self-oriented perfectionism					0.277	4.313	0.01
Other-directed perfectionism	Extrinsic motivation	0.399	0.153	25.317	0.093	1.478	0.14
Socially-prescribed perfectionism					0.074	1.092	0.27

Discussion

Perfectionism is defined as a personality trait which, in its maladaptive form, is characterized by adverse and ultimately self-defeating thoughts and action. The individuals with such a trait are obsessed with achieving self-imposed and unrealistically high goals in all areas of performance, regardless of whether or not the task actually demands such a level of achievement. Perfectionism is also characterized by hypercritical self-evaluation where any performance considered to be below expectation is regarded as failure, and assumes an unwarranted and excessive importance which often deprecates successes in other areas.

The purpose of the present study was to determine whether significant differences exist between the level of multidimensional perfectionism and motivational orientation with respect to gender within a sample of Jordanian undergraduate

students, and also to investigate the relationship between multidimensional perfectionism and motivational orientation.

Our findings detected no gender bias or influence on the students' dimensions of multidimensional perfectionism and motivational orientation, therefore duplicating the results of several previous studies (Benjamin, Roberts, & Gotib, 1997; Flett, Blankstein, Hewitt, & Koledin, 1992; Hewitt & Fliet, 1991; Jonge & Waller, 2003).

Our second aim was to investigate the relationship between multi-dimensional perfectionism and motivational orientation. Our results revealed the existence of a positive and statistically significant relationship between multidimensional perfectionism (self-oriented perfectionism, other-directed perfectionism, and socially-prescribed perfectionism) and motivational orientation (both intrinsic and extrinsic).

Perfectionists are often victims of "all-or-nothing thinking", where they believe they are failures if not all of their goals are achieved without any mistakes, and have inflexible notions of what constitutes success and failure. They often experience a fear of making mistakes, and measure their self-worth in terms of productivity and accomplishment.

We delineate perfectionism as having two main forms or concepts: 1) self-oriented (internally or intrinsically motivated), and 2) socially prescribed, (externally or extrinsically motivated). One of the positive facets of perfectionism is the motivation to achieve. In their study, Frost and Marten (1990) reported a positive association between self-oriented perfectionism and striving for positive achievement, while Neumeister (2004) reported self-oriented perfectionism as characterized the motivation for positive achievement rather than the negative motivation of avoiding-failure. This positive attitude motivated perfectionists to set realistic mastery goals, in addition to implementing reasonable and practical approaches towards achievement, which typically included challenge-seeking, time management, and requesting assistance. The results of studies conducted by Mills and Blankstein (2000); Miquelon, Vallerand, Grouzet, & Cardinal (2005); and Van Yperen (2006) demonstrated that self-oriented perfectionism illustrates both intrinsic and extrinsic motivation, but in differing degrees, with intrinsic motivation showing the stronger and more consistent relationship. Conversely, extrinsic motivation demonstrated stronger and more consistent positive correlations with socially-prescribed perfectionism.

Ryan and Deci (2000) make the point that individuals who exhibit a high level of intrinsic motivation both accept the need for competence and autonomy, and experience pleasure and satisfaction in their achievement. They enjoy ultimate challenges, and instigate and appreciate effective feedback, while rejecting evaluations that are simply demeaning; all these elements are predictors of intrinsic motivation. In their study, Frey & Jegen (2001) note that even in ordinary situations involving money, people generally tend to act in response to intrinsic stimuli and incentives rather than weighing the possible or probable material or financial consequences of their actions.

On the other hand, Blankstein & Dunkley (2002) describe an association between negative aspects of perfectionism and lower achievement motivation, as in socially-prescribed perfectionism and maladaptive motivation. These researchers

postulate that the observed negative influence on the academic achievement of socially-prescribed perfectionists is due to their main motivation being a fear of failure, rather than an intrinsic motivation to achieve and succeed.

Conclusion

Our study contributes to the literature in demonstrating that perfectionism contributes to performance and achievement through its relationship to motivational orientation, and its results show positive perfectionism can have a positive relationship with students' motivation and well-being.

Limitations

Notwithstanding these promising findings, our study had some noteworthy limitations. Firstly, our sample was drawn solely from an undergraduate student population. Valuable future research into the psychometric qualities of the multidimensional perfectionism and motivational orientation scales could well encompass other populations such as secondary school students, for example. The second limitation is the fact that the results can only infer a correlation, not a causal relationship. Researchers considering future studies in this field may therefore consider using an alternative method, such as a longitudinal model.

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World Assumptions and Youth Identity as Predictors of Social Activity Preferences

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Background. The social activity of young people is the driving force behind socio-economic and socio-political processes in society. It is due to their social activity that positive changes are taking place in different spheres of life.

Objective. We set out to analyze the preferences and predictors of the directions of young people's social activity.

Design. Our study involved 251 people from the Saratov region, Russia, of median age (M) 20.11, SD = 1.2 (41% male). To measure their basic assumptions, we used the Janoff-Bulmann World Assumptions Scale (WAS); their identity characteristics were measured with the Kuhn and McPartland Twenty Statements Test (TST) "Who am I?". To evaluate their social behavior preferences, we used 11 unique proprietary scales which we developed on the basis of a pilot study with relevant theoretical validity.

Results. Our study found that youth preferences for various forms of social activity can be divided into two main clusters: organizational-social and individual-personal. Our results revealed that individual-personal activity had a more complex structure, with well-expressed intensity, than the organizational-social form of social activity. Young people's assumptions most strongly condition variations in their preferences for educational-developmental, socio-political, recreational-cognitive, and self-development-related spheres of activity. The most influential predictors of social activity in young people are their assumptions regarding their own significance, their ability to manage events, and their luckiness. We established that an individual's basic beliefs do not influence variations in their preferences for mass cultural, religious, creative, and informal activities in a group. Young people's sense of identity influences variations in their preferred types of social activity. The most influential predictors of social activity preferences were negative personal, personal, and family-related identities. Preferences for social activity are less influenced by gender, religious, and ethnic identity, as well as by identity based on activity and appearance.

Conclusion. We present some conclusions regarding the strong determination of the first cluster (political, religious and voluntary types of activity) by identity, and the second cluster (ranging from educational to recreational cognitive activity) by assumptions about the world.

Keywords:
social activity;
world assumptions;
identity; young
people

Introduction

Numerous studies of young people's social activity have covered various aspects of this phenomenon, including civic, political, voluntary, and cyber activity. However, there is a clear deficit of empirical studies on the changing preferences of young people for certain forms of activity, their intensity, the psychological characteristics of their activity, and its determinants.

The phenomenon of personal social activity has two most important dimensions: the socio-economic and the socio-psychological (Shamionov, 2012; Shamionov & Grigoryeva, 2012; Grigoryeva, 2018). The first dimension is connected with the social development of the country, the influence young people have on political and economic changes, and their innovativeness and constructiveness/destructiveness. The second dimension, which is undoubtedly related to the first, presents the possibilities for understanding the causes, dynamics, mechanisms, and determinants of social activity as a scientifically cognizable phenomenon and a specific subject of social psychology.

The understanding of this phenomenon will allow the creation of programs of "directed" personal socialization, demonstration of innovative values, and openness to changes that create the social and psychological conditions for the development of society. The most important factor dictating the relevance of studying the psychological determinants of individual social activity in countries with developing democracies, is the need to encourage active civic participation by young people, including their innovativeness and creativity. Thus we studied young people's social activity via its various aspects, i.e. psychological mechanisms, educational initiatives, social and political effects, etc. For this reason T.G. Kiseljova (2014) views youth social activity through the prism of social giftedness, while S.S. Kudinov (2014) defines it via the concept of personal fulfillment.

We defined social activity as the planning, organization, and realization of behavior in the social environment regulated by internal (motivation, beliefs, values, identity) and external (requirements of the social environment) determinants. Personal and group social activity presupposes not only participation in public life, but, above all, an initiative and creative attitude toward social activity, an attitude which is itself a subject of social life. This is the realization of a person's attitude to the surrounding reality. It is determined by the individual's needs-related and motivational spheres, related to the person's qualities, realized in the process of social interactions, and aimed at self-change and transformation of reality in accordance with a person's own needs and beliefs, and the demands of the social environment.

According to K.A. Abul'khanova-Slavskaya (1999), the necessary condition for constructive individual and group social activity is the ratio of initiative and responsibility, which are not necessarily opposed to each other. It is obvious that the interdependence of the direction of an individual's activity and initiative, together with his/her sense of responsibility, is an important factor in his/her pro-sociality.

Studies of young people's social activity have centered around the problems of their psychological and socio-psychological dependence. Scientists have been actively studying social activity in the following areas: 1) social networks (Sherman et al. (2018); Seigfried-Spellar and Lankford (2018); Savrasova-V'un (2017);

Rjabikina & Bogomolova (2015); Shhebetenko (2016); Krasilshnikov & Osetrov (2017)); 2) the educational environment (Beljaeva & Istratova, 2014; Skornjakova, 2015); 3) socially-transforming activity (Eremina, 2015), as an element of social self-definition (Akbarova, 2015) and socio-cultural activity (Sharkovskaja, 2016); 4) politically-active behavior and its orientation depending on political involvement and beliefs (Grant et al., 2017; Russo and Amna, 2016; Rozhkova, 2015); 5) impact of normative perceptions of aggression and empathy on cyberbullying (intimidation) (Ang et al., 2017) and other negative forms of activity in the cyberspace (Kalaitzaki and Wright, 2017); 6) volunteer activity involving the elderly (Svishheva, 2017); 7) specifics of its formation (Perminova, 2016); 8) comparative study of autonomous and external motivation (Hardy et al., 2015; Ferguson et al., 2015); and 9) sect-related social activity and its behavioral consequences (Merrilees et al., 2013).

Research shows that the use of social networks by young people can contribute to more active political and civic participation (Chan & Guo, 2013). Social activity can be used as a tool for solving social problems (Sedova, 2015; Furman & Gridina, 2015) and be a factor in personal socialization (Kondrateva, 2017; Rudneva, 2017). We analyzed personal (dark triad, sadism, five-factor model) factors of various types of social activity in social networks (from trolling to confession) (Seigfried-Spellar & Lankford, 2018), as well as factors that interfere with young people getting involved in social activity (Miller, 2012); a number of studies over the last five years have been devoted to theoretical interpretation of this phenomenon (Shamionov, 2012; 2014; Balabanova, 2017; Sitarov & Maralov, 2015) and to analysis of the determinants of social activity (Shamionov & Grigoryeva, 2012; Perminova, 2016; Shhebetenko, 2016).

Recently, there have been many investigations aimed at analyzing the psychological effects of realized social behavior. In particular, these studies focused on its consequences for young people's responsibility and control function, as well as on the corresponding behavioral effects (Sherman et al., 2018); the influence of online activity, under conditions of information and messages posted on social networks, on young people's behavior under alcoholic intoxication (Pegg et al., 2018); and, finally, the influence of cyberactivity on youth political and civic activity (Chan & Guo, 2013; Savrasova, 2017).

Studies of social activity (Shamionov & Grigoryeva, 2012; Moiseev, 2013; Beljaeva & Istratova, 2014; Kudinov, 2014) convincingly prove the realization of various types of young people's activity. That is why we need to view the social activity of young people as a multiple activity.

Based on our analysis, we can conclude that there are two predominant trends in the studies of social activity, i.e. analysis of the psychological factors leading to pro-social activity and its types, and analysis of the "resonant" forms of social activity, which are the forms that have "behavioral" effects. Scientists are actively studying issues related to social activity on the Internet and its impact on young people's civic and political behavior.

At the same time, there is an obvious lack of concrete scientific studies regarding the characteristics of social activity and its determinants under conditions of young people's multiple activity. The directions young people's social activity

take are characterized by great diversity, and this has become a social risk factor (Shamionov & Grigoryeva, 2012). Therefore, the study of characteristics and predictors of this phenomenon must be conducted with consideration of its poly-directionality.

Our study analyzed young people's basic beliefs and sense of identity as predictors of social activity. The concept of basic beliefs was created in connection with the study of psychological trauma and coping processes. In accordance with this concept, we singled out three basic assumptions: the assumption that there is more good than evil in the world; the assumption that the world is full of meaning; and the assumption regarding self-worth. Basic personal assumptions (aka world assumptions) undergo significant changes under the influence of personal psychological traumas and traumatic events, which result in the fundamental destruction of habitual views and patterns of behavior (Janoff-Bulman, 1989; 1992). Investigations of people's world assumptions have made it possible to establish their connection with traumatic events, and the potential shifts that can occur through a newly discovered sense of vulnerability (Janoff-Bulman, 1989).

Despite the application of this concept to the analysis of post-traumatic states, we believe that basic assumptions can cover a wider range of objects, including the analysis of young people's social activity. Obviously, basic assumptions are personal characteristics that regulate different types of activity, their direction, and intensity. Our previous research showed their connection with the socio-psychological adaptation of students in Russia (Shamionov et al., 2013). The study of young people's motivation related to volunteer activity in its relation to their world assumptions has shown that the motivation of volunteers in adolescence is more based on external factors (positive attitude of others, social significance, social contacts) than on the deep philosophical assumptions of the individual volunteer (Solobutina & Nesterova, 2018). However, these assumptions start playing a more important role in adolescence (Shamionov, 2017). We have discovered a bias toward social activity depending on a belief in a just world (BJW) (Maes et al., 2012). Earlier, we discovered a feedback factor as well, i.e. the influence of a person's life events on the establishment of his/her world assumptions (Catlin & Epstein, 1992).

Personal and social identity are studied from the point of view of their influence on social behavior (Shamionov & Grigoryeva, 2012; Merrilees et al., 2013). The importance of identity for regulation of social activity in different communities is related to the fact that characteristics of identity are formed in interpersonal relationships and social activity, and influence these relationships and activity.

Methods

The purpose of this study is to research world assumptions and social identity as predictors of social activity. The study's object is social activity, and its subject is world assumptions and identity as the determinants of the direction taken by students' activity. We assumed that 1) certain types of social activity may be grouped together based on their manifestation for an individual, and 2) that there are similarities and differences in the determination of young people's preferred areas of social activity.

Participants

Our sample consisted of 251 students in the Saratov region, Russia, median age (M) 20.11 (17 to 23 years), SD = 1.2 (41% male). The sample was formed by simple randomized selection. It should be noted that the vast majority (more than 90%) of young people aged 17 to 23 years are students at universities and colleges (Federal, 2018).

Procedure

To measure basic assumptions, we used the Janoff-Bulman's World Assumptions Scale (WAS) (Janoff-Bulman, 1989). The version we used had been created by O.A. Kravcova, based on the results of the scale's adaptation for Russian speakers by Kravcova (2000), Padun and Kotelnikova (2012), and an additional reliability and internal consistency test. This version of the WAS contained 32 items divided into eight subscales: 1) benevolence of the world (BW); 2) benevolence of people (BP); 3) justice (J); 4) control (C); 5) randomness as a principle of distribution for the occurring events (R) [R^* regressive scale]; 6) self-worth (SW); 7) self-control, control over events (SC); and 8) luckiness (L). These were distributed among three basic scales: 1) an assumption that there is more good than evil in the world; 2) an assumption that the world is full of meaning; and 3) an assumption regarding self-worth. All scales have undergone reliability checks: Cronbach's $\alpha = 0.65\text{--}0.66$; Friedman's $\chi^2 = 176.8$, with $p < 0.001$.

The students' sense of identity was measured by the Kuhn-McPartland 20 Statements Test (the "Who am I?" test). As a result, we singled out various categories. Each identification category was assigned to a certain type after being tested by three experts with PhDs in social psychology.

The students' preferences in social activity and their general self-assessment of social activity were identified using specially designed scales defined on the basis on a pilot research project. The pilot study involved 80 students from Saratov State University aged 18 to 23 years. They were asked to identify social activity and define its main characteristics and directions. Based on these results, we developed a scale of 11 types of social activity. Then, five qualified psychology experts evaluated the scale for its compliance with the identified forms of social activity, and the most frequently mentioned areas of social activity were selected. Among them were: 1) recreational and cognitive social activity (group tourism) (RCSA); 2) self-development activity (training, etc.) (SDA); 3) educational and developmental activity (participation in educational initiatives) (EDA); 4) hobby and communication-related social activity (related to friends and acquaintances) (HCSA); 5) Internet and network-related activity (INA); 6) socio-political activity (SPA); 7) culture and mass social activity (CMSA); 8) social activity in the spiritual and religious sphere (SASRS); 9) informal social activity in the collective (ISAC); 10) creative social activity (art studios, etc.) (CSA); 11) volunteer social activity (volunteering) (VSA); and 12) general (generalized) subjective assessment of social activity. All scales have undergone reliability checks: Cronbach's $\alpha = 0.68\text{--}0.69$; Friedman's $\chi^2 = 964.1$, with $p < 0.001$.

The socio-demographic parameters were singled out with the help of the questionnaire compiled by the authors.

The logic of the study was as follows. Initially, we analyzed how frequently each type of social activity was manifested; then we carried out cluster analysis to classify the activities into groups, and determine the predictors of the different forms of social activity based on regression analysis.

Data analysis

To reach our goal, we used primary statistics, cluster analysis (the intra-group relationships method), and regression analysis (direct step-by-step method). All statistical analyses were conducted with the aid of the Statistical Package for the Social Sciences (SPSS 22.0).

Results

Cluster analysis of the assessments of the young peoples' social activity forms made it possible to single out two large clusters (see *Figure 1*).

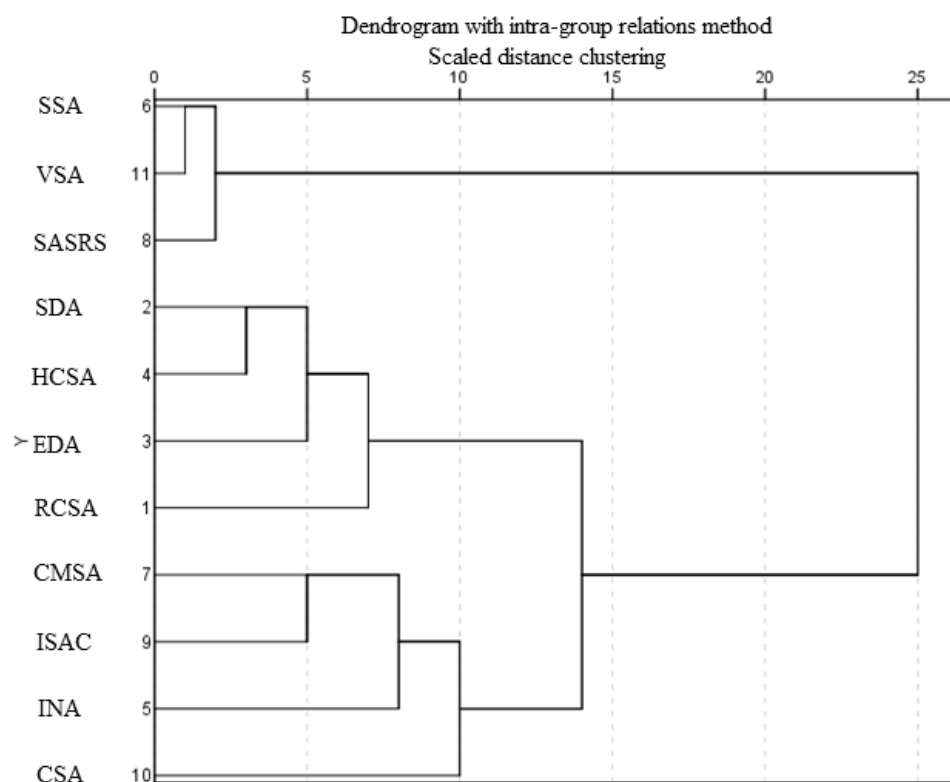


Figure 1. Preference clusters from the young people's social activity forms

The first cluster, which is structurally less complex, combines three forms of social activity: socio-political (SSAT), voluntary (VSA), and social activity in the spiritual and religious sphere (SASRS). These forms of social activity are to a great extent realized in public associations, and are related to more or less organized activities, and the existence of a formal group structure to which the individual

belongs. Therefore, we defined this cluster as a “preference for organizational and social forms of social activity.”

The second, more complex cluster combines eight forms of social activity: 1) activity in the sphere of self-development (SDA); 2) hobbies and communication (HCSA); 3) education and development (EDA); 4) recreation and cognition (RCSA); 5) mass culture (CMSA); 6) informal activity in a work collective or educational group (ISAC); 7) Internet and network activity (INA); and 8) creative social activity (CSA). All these forms of social activity are to a great extent related to individual initiative and performance. Therefore, we defined this cluster as “preference for individual and personal forms of social activity.”

We subdivided the cluster “preference for individual and personal forms of social activity” into two less complex sub-classes, which we named “preference for social activity for self-development” and “preference for social activity in entertainment.” We further divided the first sub-class into “preference for social activity for personal development” and “preference for social activity for physical self-development.” The second sub-cluster was divided into “preference for social activity in productive entertainment” and “preference for social activity in consumer entertainment.”

The Impact of World Assumptions

Let us turn to the results of the regression analysis, where the form of social activity was chosen as a dependent variable and world assumptions as an independent one (Table 1).

Concerning basic personal beliefs, we found four predictors of students’ preference for educational and development activity, two positive and two negative. The positive predictors were the assumption regarding the justice of the world ($\beta = 0.341$) and the assumption regarding one’s self-worth ($\beta = 0.299$). The negative predictors were the assumption regarding one’s luckiness ($\beta = -0.198$) and the assumption regarding control of the world ($\beta = -0.141$).

These results show that a belief in the justice of the world increases the preference for activity in the sphere of education and self-development. Such activity helps fulfill the desire to achieve, reduces anxiety, initiates interactions with other subjects of education, and promotes interactions without any fear of the negative effect associated with the unfair distribution of awards for one’s efforts. The assumption regarding one’s self-worth is a personal basis for students placing high importance on educational and developmental activity, since this activity increases confidence in one’s own strengths and abilities, and obviously, forms positive affective interactions in the educational environment. On the other hand, belief in one’s luckiness reduces students’ internality, does not contribute to their efforts and organization of purposeful activity to achieve their learning goals, and provokes hope for a successful outcome in a situation without the student having to invest in learning the material. Belief in the world’s controllability does not contribute to an increase in the students placing importance on educational and developmental activity.

A high level of anxiety, a desire to avoid trouble, an expectation of making mistakes, and putting an emphasis on them and ways to prevent them, determine

Table 1

World Assumptions as Predictors of Social Activity

Form of social activity	World assumptions	Non-standardized coefficients		Standardized coefficients	t	p
Educational and developmental	J justice	0.760	0.157	0.341	4.850	0
	SW self-worth	0.626	0.153	0.299	4.101	0
	L luckiness	-0.573	0.204	-0.198	-2.811	0.006
	C control of the world	-0.361	0.181	-0.141	-2.000	0.047
R² = 0.22; F = 11.87; p < 0.001						
Hobbies and communication	SC degree of self-control	0.431	0.142	0.222	3.027	0.003
R² = 0.05; F = 9.16, p < 0.01						
Internet and networks	R* randomness	-0.393	0.175	-0.167	-2.247	0.026
R² = 0.03; F = 5.05, p < 0.05						
Socio-political	SW self-worth	-0.536	0.175	-0.226	-3.063	0.003
	R* randomness	0.521	0.194	0.199	2.693	0.008
R² = 0.8; F = 7.1, p < 0.01						
Volunteering and social	L luckiness	-0.464	0.183	-0.188	-2.538	0.012
R² = 0.04; F = 6.44, p < 0.01						
In the sphere of self-development	SC degree of self-control	0.649	0.206	0.247	3.152	0.002
	C control	-0.521	0.192	-0.215	-2.708	0.007
	J justice	0.356	0.155	0.169	2.292	0.023
R² = 0.09; F = 5.73, p < 0.01						
Recreational and cognitive	BW benevolence of the world	0.717	0.176	0.288	4.062	0
	SC degree of self-control	0.708	0.226	0.223	3.139	0.002
R² = 0.12; F = 12.4, p < 0.001						
Generalized self-evaluation of social activity	SC (degree of self-control)	0.317	0.152	0.156	2.093	0.038
R² = 0.02; F = 4.38, p < 0.05						

Note. * regressive scale

students' activity in the educational environment, and change the students' orientation away from the achievement of educational goals, to trying to organize special conditions of activity that exclude the inevitability of erroneous actions.

A student's degree of self-control contributes to a preference for hobby-related and communicative activity ($\beta = 0.222$). Along with resilience, self-control allows young people to regulate their relationships with friends and acquaintances during leisure time and while engaging in informal communication, which makes this communication devoid of conflict and, in this connection, attractive. Feedback is also possible: the importance of hobby-related and communicative activity increases the actualization of such qualities as self-control, restriction of impulsive reactions, the ability to compromise, and so on.

The belief that there are a lot of uncertain, random, and uncontrollable events in the world contributes to the increase in student preferences for activity on the Internet ($\beta = -0.167$), which may be due to the protected nature of the Internet and network-related activity, whereby poorly controlled virtual events do not lead to a negative result, and the responsibility for results is weaker than in real life.

An assumption that there is too much diversity and uncertainty in the world, and a belief in the significant role of random, uncontrollable events, taking into account the reversibility of the scale, reduces a youth's preference for social and political activity ($\beta = 0.199$). Self-worth also determines the decrease in preferences for various kinds of socio-political activity ($\beta = -0.226$). This result shows that the assumption regarding diversity and dynamism of the world does not promote a preference for socio-political activity. As to why a high sense of self-worth decreases the preference for socio-political activity, it seems obvious that young people consider socio-political activity a type of activity that can only be viable in a political or social organization with a certain hierarchy of relations, where one's self-worth is difficult to maintain.

Belief in one's luckiness reduces the preference for volunteer social activity ($\beta = -0.188$). The decrease in the preference for volunteer social activity due to belief in one's luck can be explained by the fact that the belief in what causes a successful outcome of a life situation extends not only to personal events, but also to events in other people's lives. Consequently, other people do not need their help, and the results of their life events depend on how lucky they are.

The predictors regarding preference for activity in the sphere of self-development includes two positive factors and one negative factor. Positive predictors include the belief in possibility of self-control ($\beta=0.247$) and the belief in justice of the world ($\beta = 0.169$). The assumption regarding control of the world decreases young people's preference for activity in the sphere of self-development ($\beta = -0.215$). It is obvious that the stronger young people's beliefs in a high degree of self-control, the sooner they will try to change something in themselves in accordance with conditions of their life or activity, and will try to improve their qualities, because they believe that their efforts will be justly rewarded. The decrease in the preference for activity in the sphere of self-development related to the assumption regarding world's control is obviously connected with the youth's main goals being self-development and self-change, rather than changes in the surrounding reality. Perhaps, the belief regarding control of the world, which includes control over other people, does not contribute to a high evaluation of the significance of activity in the field of self-

development, because young people do not see an ability to control the world, and thus confine themselves to self-change.

Students' preferences regarding recreational and cognitive activity have two positive predictors in terms of basic personal assumptions. They are the assumption regarding the benevolence of the world ($\beta = 0.288$) and the assumption regarding the possibility of self-control ($\beta = 0.223$). The belief that, on the whole, everything is going to be all right, and the people in one's environment are generally supportive, promotes a preference for social activity in the field of tourism and physical activity. Perhaps, this can be explained by the important role of these subject-personal qualities in the process of organizing one's life under difficult conditions, which requires self-control and trust in one's partners for interaction.

The assumption regarding the possibility of self-control is a positive predictor of a generalized preference for social activity ($\beta = 0.156$). This relationship indicates the orientation of young people toward the impact of realizing social activity on their own thoughts and actions, as well as the possibility of their self-regulation. On the one hand, this promotes the internality of young people in the process of social interaction; on the other hand, it complicates the possibility of influence, including pro-social influence, on partners in the social activity.

We have to point out that we found no predictor of preference regarding mass cultural and spiritual-religious social activity of students in terms of their basic individual beliefs.

The Impact of Identity Characteristics

Let us now turn to the results of regression analysis, where we evaluated which characteristics of identity became predictors of which form of social activity a student would choose (Table 2). As we can see from Table 2, recreational-cognitive, spiritual-religious, Internet-network, and political activities are most strongly conditioned by identity characteristics.

Students' preference for recreational and cognitive social activity has two predictors: the positive predictor is consciousness of their physical appearance ($\beta=0.147$), and the negative predictor is their sense of personal identity ($\beta = -0.155$). Positive prediction of the preference for recreation and cognitive social activity due to personal appearance is related to the fact that self-consciousness about one's appearance (eye color, hair color, height, body type, etc.) contributes to an assessment of one's physical (primarily strength-related) opportunities, which is important for the implementation of recreational and cognitive social activity (group tourism). The negative prediction of the preference for social activity in group tourism due to personal identity is related to the fact that a developed sense of personal identity helps one recognize oneself as a unique person who stands out in the social environment; such a trait is obviously not accepted in group tourism, which requires teamwork and group norms and values.

Preference for activity in the field of self-development is reduced if one's identity is based on one's relatives and family ($\beta = -0.193$). Defining yourself as a family member and through your roles in interaction with relatives does not help you focus on your own development needs. On the contrary, identity based on relatives and family promotes a preference for Internet and network activity ($\beta = 0.2$), which in-

Table 2

Identification categories as predictors of social activity

[illegible]

icates, perhaps, the ease of realizing this type of social activity in the family, since it is possible to combine family roles and activity in the Internet space.

The positive predictor of students' preference for hobby-related and communicative social activity is a negative sense of personal identity ($\beta = 0.167$). Internal contradictions, lack of a clear image of oneself, and the inability to perceive one's own characteristics reduces preferences for friendly interactions, which may be due to low self-esteem and fear of criticism from others in close personal relationships.

Negative personal identity ($\beta = -0.169$) also reduces the preference for social and political activity, where implementation of opposite traits is obviously important. Among them are a positive image of oneself, high self-esteem, awareness of one's own characteristics, and identity of time and situation. Preference for social and political activity is also reduced under the influence of ethnic identity ($\beta = -0.202$). Obviously, students understand that in order to carry out social and political activity, first and foremost, they need a civic identity, and that an ethnic identity will not contribute to solving the problems of the country as a whole.

The predictors of the preference for mass cultural social activity are very specific. They are awareness of one's qualities, promoting the activity ($\beta = 0.217$), and gender identity ($\beta = 0.16$). In the first case, the awareness of one's activity and the qualities that contribute to this activity is the necessary condition for the relatively energy-consuming aspects of mass culture social activity. In the second case, one's identification with a group of one's gender actualizes needs specific to members of a certain sex, which, obviously, can be satisfied in this kind of social activity.

Regarding the diverse prediction of students' preferences for social activity in the spiritual and religious sphere, we can point to two positive predictors, i.e. religious ($\beta = 0.455$) and educational identity ($\beta = 0.18$), and one negative predictor, i.e. ethnic identity ($\beta = -0.184$). The fact that religious identity is a predictor of students' preference for social activity in the spiritual and religious sphere is quite understandable, because of the importance of this sphere for a believer, and the need to realize his/her place in his/her faith. Educational identity enhances this type of social activity, perhaps because of the recognition of the student's role not only in the sphere of secular education, but also in his/her relations with the clergy. The overwhelming role of students' ethnic identity in decreasing the preference for social activity in the spiritual and religious sphere testifies to the multi-directionality and different content of the formation of religious and ethnic feelings, as well as the processes of referring oneself to a certain group, either by the criterion of faith or by the criterion of *ethnos*.

The positive predictor of preferences for creative social activity is personal identity ($\beta = 0.288$), since perceiving oneself as a complete personality with awareness of one's specific abilities and potential, influences the choice and intensity of creative activity, increases the likelihood of its high-quality performance, and helps one to get satisfaction and confirm one's own identity.

Volunteer social activity has one negative predictor, i.e., negative personal identity ($\beta = -0.186$). With negative personal identity, preference for volunteer social activity in the form of volunteerism and selfless help to those in need is reduced, because intrapersonal problems expressed through low self-esteem, negative self-concept, and the inability to form a holistic positive image of oneself, capture the individual and make it difficult for him/her to focus on the problems of other people.

Discussion

Classification of the directionality of young people's activity, compiled via cluster analysis, made it possible to identify single-order groups of social activity. Various levels of cluster complexity allowed us to show that students' preference for individual and personal forms of social activity is related to the breadth of their various spheres of activity and the activities' complementarity. It also allowed us to understand the possible intensity of individual and personal activity in comparison with organizational and social activity. One can see the relative independence of preference for organizational social activity and individual-personal social activity, which may be due to different levels of accessibility, or to the fact that these two forms of social activity allow satisfying different altruistic and individual needs. This data is consistent with the results of research on the notions of preferred spheres of social activity in Russia (Kuprejchenko & Moiseev, 2010; Serdjuk, 2015; Sitarov & Maralov, 2015), which established not only the significance of spheres of activity, but the proximity and remoteness of various forms of activity.

Regression analysis allowed us to come to conclusions regarding some patterns of determination concerning young people's preferences for certain types of social activity from the point of view of their basic beliefs and identities.

The strongest predictors of social activity among young people are beliefs in their own values, in their ability to control the events, and in their luckiness. These and other beliefs accounted for up to 22% of the variations in activity in the field of education; up to 12% of variations in recreational and cognitive activity; and 9% of the variations in activity in the sphere of personal self-development. Characteristics of identity accounted for up to 47% of the variations in recreational and cognitive activity of young people; 24% of the variations in preferences of activity in the spiritual and religious sphere; and 9% of the variations in preferences for socio-political activity.

Meanwhile, a number of studies have shown some relationship between young people's notions of the world, and their actions or behavior. This research makes it possible to establish that people "rewrite" reality around their favorable course of action, going beyond the logic of their own preferences (Herrmann, 2017). Assumptions about the world and other people regulate young people's social behavior according to the needs of their community or their own needs (Maes et al., 2012, Shamionov et al., 2014; Shamionov, 2019). This data indicates the significant prognostic power of these phenomena, and that the share of explanatory variance of other personal characteristics or situational factors may also be significant. The study of these phenomena is the goal of our follow-up research.

The lack of predictors of students' preference for mass cultural and spiritual-religious social activity from the point of view of their individual basic beliefs is explained by the fact that, in the first case, this prediction has no functional significance. In the second case, the significance of spiritual and religious activity is obviously not determined by beliefs related to the evaluation of the world and one's impact on it; it is determined by beliefs about the existence of influence of external higher forces on the world.

Regression analysis made it possible for us to identify the characteristics of identity which are the most influential predictors of young people's preference for

various types of social activity. Among these predictors we can single out negative individual, personal, and family and relative-related identity. To a lesser extent, the preference for social activity types is influenced by sexual, religious, and ethnic identity, as well as a sense of identity based on activity and appearance. Our study has revealed a diverse prediction of students' preference for social activity in the spiritual and religious sphere, while other types of social activity are conditioned by fewer predictors.

In general, as it follows from the results of regression analysis, the level of predictability of different forms of social activity varies significantly. Assumptions about the world and one's own identity make different contributions to preferences for certain forms of social activity. While sense of identity mainly determines variations of the first cluster (political, religious and voluntary), assumptions about the world predominantly condition the second cluster (from educational up to recreational and cognitive activity). These results testify to the fact that different forms of social activity can be conditioned by different personal instances, i.e. ideas about the world and about oneself.

Conclusion

Analysis of the study results brings us to the following conclusions:

1. All forms of students' social activity can be grouped into two clusters. The less complex cluster is called "significance of organizational and social forms of social activity," which combines less significant forms of social activity. The more complex cluster is called "significance of individual and personal forms of social activity," which includes the "significance of social activity for self-development" and the "significance of social activity in the sphere of entertainment." Each of these in turn includes individual sub-clusters related to personal and physical self-development and product and consumer-related entertainment.

2. Different levels of cluster complexity made it possible to conclude that the significance of individual and personal forms of social activity for young people is related to the breadth of their various spheres of activity and their complementarity. It also allowed us to judge the possible intensity of individual and personal activity compared to organizational social activity.

3. Regression analysis resulted in our establishing which assumptions make the most significant contribution to variations in social activity preferences. The most complex prediction regarding the importance of educational and developmental activity of students is connected with direct influence of assumptions regarding justice of the world and self-worth, and the reverse influence of the assumption regarding luckiness and control of the world. There is no influence of personal basic assumptions on the assessment of significance of cultural, religious, creative, and informal activity in the student group. The importance of the Internet, network, and volunteer activity only had negative predictive power from the point of view of basic individual beliefs. Hobby-related, communicative, recreational, and cognitive activity, as well as the students' general assessment of the importance of social activity, could only be positively predicted if the students had a basic individual belief in the possibility of self-control and a positive assumption regarding the benevolence of the world.

4. A student's sense of identity influences what type of social activity he or she prefers. The most influential predictors of social activity preferences are negative personal, personal, and family and relative-related identities. To a lesser extent, preference for the type of social activity is influenced by sexual, religious, and ethnic identity, as well as identity based on activity and appearance. Our study revealed diverse predictors of the preference for social activity in the spiritual and religious sphere; the remaining types of social activity were conditioned by a smaller number of predictors. Negative personal identity causes a decrease in the preference for organizational and social forms of social activity, which can be explained by the focus of the individual's attention on his/her own problems.

The significance of this study lies in the possibility of explaining the causes and determinants of social activity as an effect of young people's socialization. Vagueness about the reasons for social activity and its determinants can lead to an unjustified restriction of activity, which will contribute to the social regress.

The results of this study can be used in the development of programs for the harmonization of social relations by supporting youth initiatives aimed at attracting young people to innovative civic, voluntary, and political activity.

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Homesickness, Locus of Control and Social Support among First-Year Boarding-School Students

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Background. Homesickness is a common experience among students who live in dormitories. Its symptoms may vary and influence students' academic performance, social involvement, and ability to adapt to a new environment.

Objective. To investigate homesickness, locus of control, and social support among first-year boarding-school students.

Design. This study was conducted to first-year students of boarding-school and involved two hundred and twenty-six students, ages 11–13. A quantitative research design was implemented.

Results. There was a significant influence of locus of control and social support on homesickness among first-year students of boarding school. Social support contributed more to reducing homesickness.

Conclusion. This study can help expand the understanding of homesickness among first-year students, which may lead to improved social support from peers and develop students' locus of control.

Keywords:

homesickness,
locus of control,
social support,
first-year students,
boarding school

Introduction

Students generally undergo a transition when they are new to an environment. During this period, they tend to perceive the new environment as something strange, bizarre, and outlandish. According to Stroebe, Van Vliet, Hewstone & Willis (2002), various habitual factors associated with a new environment lead to feelings of distress and irritation. Bonanno (2001) emphasizes that leaving home has many physical, psychological, and emotional effects on an individual. is one of the many negative feelings associated with this effect (Stroebe et al., 2002).

Homesickness has been defined as a feeling of longing for one's home during a period of absence (Stroebe et al., 2002). It includes strong desire, longing, and thought about everything that revolves around the home. Most often, this is as a result of the difficulty associated with adapting to a new environment. Studies have found that homesickness is experienced by all humans, irrespective of their age and environment. One such emotional transition can be seen in students in boarding schools (Fisher, Frazer, & Murray, 1986).

Thurber (2007) explained that students who live in dormitories tend to experience homesickness more than other categories of students (91% and 16%, respectively). Watt and Badger (2009) found that, in students with diverse national backgrounds, approximately 40.4% experienced homesickness. Tartakovsky (2007) stated that students who migrate to other countries to further their education are likely to experience acculturative stress in their first year, most often associated with their longing to visit home again. The acculturative stress tends to increase in their second year, after which it declines in their third and subsequent years. Homesickness also decreases as academic activities progress.

Poylazi and Lopez (2007) explained that homesickness may harm students' academic performance, social involvement, and ability to adapt to their new environment. Stroebe et al. (2002) emphasized that homesickness could also trigger a variety of psychological problems, such as stress and depression.

With respect to human development, students between the ages of 11 and 14 should be encouraged to be independent. Most of students within this age bracket tend to depend emotionally on their parents or older adults (Hurlock, 1999). Borg and Cefai (2014) wrote that the various conditions associated with separating children from their family are quite influential upon their homesickness. This usually occurs because there is a communication gap during this period, compared to when they lived together.

Several factors lead to homesickness. Tognoli (2003) identifies locus of control as one of these. Feist and Feist (2010) describe locus of control as a person's beliefs about whether they can control of their lives. Locus control can be either internal or external. Individuals with an internal locus of control believe that they could easily control everything that happens in life, whereas persons with an external locus of control believe that events they experience are caused by external factors and cannot be controlled by them (Rotter, 1966).

Lefcourt (1976) states that individuals with an internal locus of control envision changes as challenges. They make numerous efforts to minimize stress and its impact on them. Therefore, it could be concluded that internal locus of control

helps in controlling, reducing, and eliminating the possibility of an adolescent becoming homesick owing to a change in environment.

Individuals who possess an external locus of control, on the other hand, tend to be more passive in adapting to a situation, because they believe that the situation is beyond their control (Rotter, 1966). Tognoli (2003) found that students with an internal locus of control usually experienced a low level of homesickness. Similarly, Ward and Kennedy (1993), showed that those with an external locus of control, usually have a high homesickness level. Tilburg and Vingerhoets (2005) explain that the separation of individuals from home is indirectly related to the loss of support from family, friends, and their friendly environment. In some cases, however, they regain the needed support from their new social environment, thereby reducing their homesickness to the barest minimum. Social support helps these individuals to deal with their various challenges (Sarafino, 2002).

Sarafino (2002) also found that social support is essential in various aspects of life. The unavailability of social support will make an individual feel worthless and isolated. Sarafino (2006) also clarified that social support can come from life partners, family, friends, co-workers, as well as from community organizations. Peer groups play a paramount role in social support, especially in adolescence. Peers can express opinions, acknowledge weaknesses, and help to solve problems (Papalia, Olds, & Fieldman, 2007).

Buote et al. (2007) explained that making friends with someone of the same age could assist individuals to adjust to a new environment. Rajapaksa and Dundes (2003) found that people who are not satisfied with their social environment displayed traits of homesickness.

Locus of Control and Homesickness

Homesickness is an emotional reaction that commonly occurs when individuals feel depressed in adapting to a new environment. Symptoms of homesickness may vary: Some people feel depressed, restless, and have trouble sleeping. Most of these symptoms have negative consequences for those who experience them. People who experience homesickness will experience various types of stress that are characterized by feelings of anxiety, loneliness, and discomfort; they may reject conditions in the new environment and they tend to return to the previous environment (Nejad, Pak, & Zarghar, 2013).

Tilburg and Vingerhoets (2005) explain that homesickness has four aspects: cognitive, physiological, behavioral, and emotional. The cognitive aspect concerns thoughts about home and negative thoughts about the new environment. The physiological aspect is related to physical complaints, sleep disorders, loss of appetite, and fatigue. The behavioral aspect is related to apathy, lethargy, lack of initiative, and little interest in the new environment. The emotional aspect refers to feeling uncomfortable, anxious, and lonely, as well as losing control.

Tognoli (2003) explains that homesickness is related to locus of control. Locus of control is a concept that refers to individual beliefs about the source of control of events that occur in his/her life. Rotter (1966) explains that there are two types of locus of control, namely internal and external. Internal locus of control can be the

belief that individual efforts and abilities determine events experienced in one's life, whereas external locus of control can be beliefs that events experienced in one's life are predestined.

Individuals who have a low level of homesickness tend to have an internal locus of control (Tognoli, 2003). They tend to make significant efforts to control their environment, and can control difficult situations during the home-school transition. They believe that individual actions can control all events that occur in life. These beliefs may encourage these people to strive to reduce various negative emotions and to overcome uncomfortable psychological conditions.

Breet, Myburgh, and Poggenpoel (2010) explain that individuals with an internal locus of control can effectively manage emotions and stress by using problem-solving strategies, whereas those with an external locus of control tend to be passive about environmental conditions, due to the belief that factors outside themselves cause the events that are experienced. In the case of homesickness, persons who have an external locus of control orientation tend to assume that no matter how much effort is made, it will not produce any improvement of the situation. This condition leads individuals to dissolve into negative emotions that interfere with proper functioning. Stevens (2002) also explains that individuals with an external locus of control tend to feel more intensely negative moods such as depression, anger, frustration, and aggression while experiencing a stressful situation.

Social Support and Homesickness

According to Hossein and Faramarz (2014), a student with strong social support tends not to have profound homesickness, whereas those who do not receive social support from their new environment are more vulnerable to homesickness.

Sarafino (2008) explains that social support can be given in several ways: emotional support, appreciation support, instrumental support, information support, and social network support. Emotional support is expressed through positive feelings that are manifested in empathy, attention, and concern for other individuals. It can lead to feelings of comfort, of being involved, and being loved when experiencing stress. Appreciation support occurs through expressions, rewards, or positive judgments of individuals, encouragement to advance and fostering of enthusiasm, as well as a favorable comparison with others. It focuses on the expression of a positive assessment of individuals and acceptance of the person. It leads to feelings in the individual that he is valuable, capable, and meaningful. Instrumental support can be realized through direct assistance, such as providing funds or assistance in the form of real actions or objects. Information support can be through activities such as giving advice or suggestions, directing, giving feedback on what was done. The social network support describes friendly relationships that allow individuals to spend time together, provide a sense of attachment and acceptance in groups, and carry out social activities together.

Hendrickson, Rosen, and Aune (2011) said that students who have more friendships, especially from the same city, show lower levels of homesickness and

feel happy in a new environment. Social support is a source of emotional support and mentoring to deal with problems of daily life (Vieno, Santinello, Pastore, & Perkins, 2007). Peers play a significant role in the growth of adolescents, because they can provide a safe place to express opinions, acknowledge weaknesses, and seek to solve problems (Papalia, Olds, & Fieldman, 2009).

Social support from peers in a new environment can change an individual's perception of a stressor into something that can be dealt with and resolved, slowly reducing the intensity of homesickness so that the person can function well in everyday life. Social support can be obtained from the individuals or communities around one, which is needed during difficult times such as homesickness. It can also work as a barrier to adverse effects arising from various pressures (Sarafino, 2002).

Social supports can be emotional, appreciation (offering enthusiasm and confidence that the person can cope with challenging situations), instrumental (helping to do things), information (giving advice and suggestions), as well as networking (involving individuals in becoming part of a social group that has an impact on one's sense of acceptance, warmth, and understanding). On the other hand, people who lack social support are likely to react negatively to life's problems (Lahey, 2007). The feeling of being supported by the environment makes things easier, especially while a person is facing stressful events. Hendrickson, Rosen, and Aune (2011) show that friends have a role in helping students adapt better, reduce their homesickness, and make experiences in new environments more positive. Friendship provides assistance during transition periods.

The numerous studies on this issue mainly revolve around college students, but the present case study was being carried out with adolescents between ages 11 and 13, at a boarding school. Based on the literature review, we proposed these hypotheses: (a) an internal locus of control correlates negatively with homesickness; (b) social support correlates negatively with homesickness; (c) emotional support correlates negatively with homesickness; (d) appreciation support correlates negatively with homesickness; (e) instrumental support correlates negatively with homesickness; (f) information support correlates negatively with homesickness; and (g) social network support correlates negatively with homesickness.

Method

Participants and Procedure

The participants were first-year students of Boarding school is a place for students to learn until a specified time limit has been reached. This study used a list of questions that was prepared to be answered by the respondent. The questions are quite detailed and complete, and answer choices are provided. Participants were asked to fill in the questionnaire based on facts about themselves. Two hundred and seventy-five questionnaires were distributed and two hundred and twenty-six questionnaires returned with complete answers. The response rate was 82%. Most of the participants were 12 years old (168 participants or 74.3%) and female (120 participants or 53.1%). The data are presented in Table 1.

Table 1
Participants' characteristics

Characteristics	Profile	Number	Percent
Age	11 years old	8	3.5
	12 years old	168	74.3
Gender	13 years old	50	22.1
	Male	106	46.9
	Female	120	53.1

Measures

Data were obtained by means of a homesickness scale, a locus of control scale, and a social support scale.

Homesickness. We created a homesickness scale with five dimensions: longing to go home, loneliness, longing for friends, difficulty in adapting to the new environment, and thinking about home (Stroebe et al., 2002). In analyzing the value of longing for home, the MSA value ranged from 0.561 to 0.876, and the loading factor ranges from 0.633 to 0.853. The MSA value of loneliness ranged from 0.780 to 0.926 and the loading factor value ranged from 0.618 to 0.839. In longing for friends, the MSA value ranged from 0.690 to 0.742, and the loading factor value ranged from 0.839 to 0.870. Regarding difficulty in adapting to the new environment, the MSA value ranged from 0.728 to 0.903, and the value of the loading factor was 0.539 to 0.761. Finally, in thinking about home, the MSA value ranged from 0.707 to 0.796, and the value of the loading factor ranged from 0.689 to 0.800. The reliability of the homesickness scale is 0.945.

Locus of control. Rotter (1966) notes that the locus of control scale is divided into internal and external orientations. Internal orientation consists of two behavioral aspects (effort and capability) and external orientation of three aspects (fate, luck, and influence of others). Regarding effort, the MSA value in our study ranged from 0.503 to 0.826, while the loading factor value ranged from 0.587 to 0.714. Regarding capability, the MSA value ranged from 0.611 to 0.811, while the value of the loading factor ranged from 0.623 to 0.785.

For external orientation, the MSA value for the aspect of fate ranged from 0.649 to 0.705, while the value of the loading factor ranged from 0.727 to 0.829. In the aspect of luck, the MSA value ranged from 0.501 to 0.675, while the loading factor value ranged from 0.694 to 0.772. Regarding the influence of others, the MSA value ranged from 0.653 to 0.819, and the value of the loading factor ranged from 0.571 to 0.739. The reliability of the locus of control scale is 0.923.

Social support. We arranged the social support scale based on five dimensions (Sarafino, 2002): emotional support, appreciation support, instrumental support, information support, and social network support. On the dimension of emotional support, the MSA value ranged from 0.640 to 0.870, and the loading factor value ranged from 0.663 to 0.817. In appreciation support, the MSA value ranged from 0.651 to 0.805, and the value of the loading factor ranged from 0.565 to 0.759. For instrumental support, the MSA value ranged from 0.669 to 0.790 and the factor

loading value ranged from 0.662 to 0.833. With regard to information support, the MSA value was 0.619 to 0.823, and the value of the loading factor ranged from 0.525 to 0.781. For social network support, the MSA value ranged from 0.681 to 0.881, and the value of the loading factor ranged from 0.564 to 0.806. The reliability of the social support scale is 0.948.

Results

Pearson correlation was used to assess the linear association between homesickness on the one hand, and locus of control and social support on the other. Stepwise regression was used to explore the relationship between locus of control and social support for a person suffering from homesickness. In this way, we sought to determine whether the locus of control and social support can make a significant, unique contribution to the prediction of homesickness. The Pearson correlation analysis showed that locus of control and social support significantly correlated with homesickness. Emotional support, appreciation support, instrumental support, information support, and social network support also significantly correlated with homesickness. The results are presented in Table 2.

Table 2

Summary of Pearson correlations among variables

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Homesickness	62.548	12.631	1							
2. Locus of control	61.327	10.201	-.209**	1						
3. Social support	68.623	12.818	-.400**	.112	1					
4. Emotional	15.734	3.834	-.376**	.077	.868**	1				
5. Appreciation	11.902	3.233	-.314**	.075	.783**	.632**	1			
6. Instrumental	10.433	2.157	-.202**	.152*	.688**	.457**	.427**	1		
7. Information	13.969	2.776	-.294**	.065	.783**	.601**	.479**	.481**	1	
8. Social network	16.584	3.763	-.378**	.105	.877**	.688**	.567**	.582**	.630**	1

Note. ** $p < .01$

In order to find variables that contributed to homesickness, we also conducted a stepwise regression analysis. Based on the first step regression analysis, social support became a predictor of homesickness ($\beta = -.400$, $p < 0.01$; $F = 42.723$, $p < 0.01$; $R^2 = .160$). In step 2, locus of control was also a predictor of homesickness ($\beta = -.166$, $p < 0.01$; $F = 25.721$, $p < 0.01$; $R^2 = .027$). The predictive value of both predictors increased ($R^2 = .187$). The regression analysis showed that locus of control and social support were negative predictors of homesickness. Social support is a strong predictor of homesickness among first-year boarding-school students. The analysis yielded a value of $F = 25.721$, $p < 0.01$. We can stipulate that the regression equation is a good fit. The results are presented in Table 3.

Table 3

Summary of stepwise regression analysis among variables

Variables Predictor	B	SE B	β	R ²	ΔR ²	F
Step 1						
Constant	89.612	4.212	−.400			42.723**
Social support	−.394	.060		.160	.160	
Step 2						
Constant	100.970	5.872				25.721**
Social support	−.376	.075	−.382	.187	.027	
Locus of control	−.206	.060	−.166			

Note. ** $p < .01$

Table 4

Results for stepwise regression analysis based on social support

Variables	B	SE B	β	R ²	ΔR^2	F
Step 1						
Constant	83.595	3.530		.143	.143	37.371**
social network	-1.269	.208	-.378**			
Step 2						
Constant	86.577	3.666		.169	.026	22.607**
social network	-.760	.283	-.226**			
emotional support	-.727	.277	-.221**			

Note. ** $p < .01$

Stepwise regression analysis was also conducted to find out the determinant of homesickness based on dimensions of social support. In step 1, it showed that social network became a predictor of homesickness ($\beta = -.378$, $p < 0.01$; $F = 37.371$, $p < 0.01$; $R^2 = .143$). In step 2, emotional support was also a predictor of homesickness ($\beta = -.221$, $p < 0.01$; $F = 22.607$, $p < 0.01$; $R^2 = .026$). The social network is a strong predictor of homesickness among first-year boarding-school students. The results are seen in Table 4.

Discussion

This study aimed to find out the role of locus of control and social support in homesickness among first-year boarding-school students. Based on statistical analysis, we found that locus of control and social support negatively influenced homesickness. Students with an internal locus of control tended to be less homesick. Bahrainian and Yari (2013) found that students with an internal locus of control have good adaptability in a transitioning environment.

Solmuu (2004) argued that different behaviors are associated with individuals with an internal locus of control compared to those with an external locus of control, with regards to environmental changes. People with an internal locus of control are more enthusiastic and responsive in a new environment. When facing difficulties or dissatisfactions, they tend to make efforts to tackle these situations.

Alternatively, individuals with external locus control tend to have pessimistic attitudes, which makes it difficult for them to solve problems (Solmuu, 2004). This usually leads to homesickness. The various explanations above are in line with the results of research by Jain and Singh (2015), which found that individuals with an internal locus of control adjusted well in various aspects of life and in a new environment.

Aside from their ability to adapt to environmental changes, those with an internal locus of control have good psychological intuition, as they can control various conflicts and uneasiness that come their way. Individuals with an external locus of control, on the other hand, experience anxiety, stress, and depression more often, owing to their inability to control what life throws against them (Ashby, Kottman, & Drapper, 2002).

April, Dharani, and Peters (2012) found that students with an external locus of control experienced greater stress than those with an internal locus of control, supporting the explanations outlined above. Similarly, Shojaee and French (2014) showed that individuals with an internal locus of control tended to possess good mental health, making it possible for them to avoid stress. Positive psychological well-being could help individuals to avoid various negative emotions associated with homesickness.

Urani, Miller, Johnson, and Petzel (2003) showed that persons who experience homesickness are influenced by limited social support from their environment. Students who got social support from their peers in the form of attention, encouragement, and material assistance tended to feel more comfortable and calm. The feeling of being supported by the environment will make things easier for a student, especially while facing stressful events. Friends have roles in helping students adapt better, reduce their homesickness, and make experiences in new environments more positive.

According to Sarafino (2002), social support is one of the paramount and essential elements in life capable of eliminating the adverse effects arising from a change in environment. Nejad, Pak, and Zarghar (2013) explained that most individuals who experience displacement are faced with challenges associated with homesickness in their first year. Anxiety, loneliness, discomfort, and rejection are some common conditions that tend to appear. However, adequate support from the environment can change these individuals' negative perspective regarding the new environment (Sarafino, 2006).

The present study found that a social network is a strong predictor of homesickness among first-year boarding-school students. The social network is a personal network such as friends connected by interpersonal relationships. Friendship is an essential component for individuals in satisfying deep personal and emotional needs (Hendrickson, Rosen, & Aune, 2011). Friendship plays a vital role in life and friends are a source of affection and cognitive that can improve well-being (Okoda, 2012). The social network will improve the quality of friendship, attention, and empathy

among friends. Individuals with a high empathy level care about their friends and are able to anticipate the negative impact of their behavior towards others (Zulkarnain, Siregar, Yusuf, & Wahyuni, 2019). This attention and empathy can strengthen the friendship and maintain its quality, ultimately reducing homesickness.

Conclusion

The purpose of this study was to better understand students' homesickness in their transition from home to dormitory life. The findings have important implications for academic advisers, parents, and students. Feelings of separation from friends and family are normal phenomena experienced by most first-year students. Boys and girls can experience homesickness in various settings such as at camp or in boarding school.

Social support plays a significant role in reducing homesickness and increasing student well-being. Social support from friends in the new environment can change student perception of a stressor into something that can be dealt with and resolved. Students often need social support from other people, such as family, friends, and neighbors, in dealing with challenging situations. Social support has a role in helping students adapt better and make experiences in new environments more positive. This study also found that students with an internal locus of control could control difficult situations in the transition from home to school because of their belief that they can control all events that occur in life. These beliefs encourage individuals to strive to reduce negative emotions and psychological conditions that are not comfortable. Some suggestions that can be given to students to reduce homesickness include involving themselves in extracurricular activities provided by the boarding school, to avoid thinking about home. This establishes socialization with people around the boarding school and activities or hobbies can build a positive mood in boarding schools.

Limitations

This study has some limitations. First-year boarding-school students were the main subjects, but it can be debated whether first-year boarding-school students in other places with a different culture face the same problems that result in homesickness. Therefore, future studies could investigate first-year boarding-school students from various cultures, discussing differences in homesickness. Furthermore, this study only uses cross-sectional study data and does not investigate interactions of different variables over time; therefore, it is not possible to reach any conclusions about cause and effect among items based on participants' responses. A longitudinal study is needed to confirm the findings reached by this study. Another limitation is that some relevant data may not be available because of the nature of the data or because it would violate confidentiality.

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Development of a Russian Version of the MindTime Profile Inventory: The Measurement of Past, Present, and Future Thinking in a Russian Sample

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Background. According to the theory of MindTime, as a consequence of the subjective perception of time and the ability to engage in mental time travel, three patterns of perceptual and cognitive mental activity exist: Past, Present, and Future thinking. How individuals utilize these three thinking perspectives, in combination, influences how they perceive and process information and interact with the world and with others. An English version of the MindTime Profile Inventory (MTPI), which measures Past, Present, and Future thinking, has been developed.

Objective. To develop a Russian version of the MTPI.

Design. Utilizing a non-experimental design, a Russian translation of the MTPI was administered online. Two hundred and twenty-nine Russian undergraduate students provided usable data, which was then factor analyzed to produce a viable set of items.

Results. Principal component analysis yielded a set of 38 items (14 Past; 10 Present; 14 Future) that appeared to work with a Russian population. Russian students' scores were highest on Past thinking ($M = 72.75$), followed by Present thinking ($M = 67.69$), and lowest on Future thinking ($M = 60.86$).

Conclusion. This study was the first step in developing a three-dimensional measure of thinking perspective for use with Russian samples. Because only 38 of the 45 translated items appeared to work well with a Russian sample, future research is needed with both larger sample sizes and working adults. Predictive validity and cross-cultural studies are also recommended.

Keywords: subjective perception of time, chronesthesia, mental time travel, MindTime, Present thinking, Past thinking, Future thinking

Introduction

The concept of time and its relationship with mind and consciousness has been the subject of much debate throughout history, from the ancient Greeks to 17th-through 20th-century philosophers (e.g., Craig, Descartes, Heidegger, Husserl, Locke, McTaggart, Rousseau, Kant, Sartre) to 20th- and 21st-century psychologists, cosmologists, and physicists (e.g., Corballis, 2014; Hagelin, 1987; Jaynes, 1976; Kafatos, Tanzi, & Chopra, 2011; King, 2014; Liljenström, 2011; Lombardo, 2011; Manning, 2014; Penrose & Hammeroff, 2011; Perret-Clermont & Lambolz, 2005; Suddendorf & Corballis, 1997, 2007; Tulving, 1985a, 1985b, 2002a).

In Russia, the concept of time has been debated as well. Most often in Russian psychology, the term “time perception” is used (e.g., Kotov-Hromenko, 1961; Sokolova, 1976; Zabrodin, Borozdina, & Mussina, 1989). Some researchers use the concept “time experience” (e.g., Golovakh & Kronik, 1984; Tsukanov, 2000); others prefer the construct “relation to time” (e.g., Kovalyov, 1988; Nestik, 2014); still others talk about the “temporal organization” of a personality (e.g., Kublitskene, 1995; Serenkova, 1995); and, finally, the term “time perspective” is widely known (e.g., Abulkhanova & Berezina, 2001; Frank, 1939; Nuttin, 2004). Many scientists do not differentiate among the terms, using them all to mean the same thing (e.g., Abulkhanova & Berezina, 2001; Nestik, 2014).

It was Tulving (2002a) who first coined the term *chronesthesia* to describe human subjective awareness of the linear passage of time. *Chronesthesia* is considered to be a relatively recent evolutionary advancement of consciousness (Liljenström, 2011; Suddendorf & Corballis, 1997, 2007) and a fundamental aspect of human experience and development (Piaget, 1954, 1955, 1969) that involves complex memory systems, self-awareness, and the ability to form higher-order complex symbolic representations of objects (Friedman, 1990; Piaget, 1969; Suddendorf & Corballis, 1997, 2007; Tulving, 1985a, 1985b, 2002b).

Chronesthesia provided humans with the ability to dissociate mentally from the present moment, project their minds forward and backward in time, and form temporally located mental representations of themselves and of other objects of consciousness (people, places, events, thoughts, feelings, sensations). Tulving (1985a) referred to this as mental time travel. According to Suddendorf (1999; Suddendorf & Corballis, 1997, 2007), mental time travel provided *Homo sapiens* with the evolutionary advantage of being able to access past experiences and knowledge stored in episodic and semantic memory, and to imagine and anticipate possible future events for long-term strategic planning. According to Tulving (1985a, 1985b, 2002b), mental time travel also provides the basis for the development of a personal identity (a “me”), which links all of the temporally based experiences that form the foundation of one’s personal history. Human beings, perhaps uniquely, have developed a personal identity that is constructed from the storehouse of past memories that have been encoded and from which they have developed their body-world-belief schemas (Stapp, 1996), which include anticipated and imagined future personal histories (Liljenström, 2011; Tulving, 1985a).

Chronesthesia and mental time travel are essential for the linguistic expression of both personal and social narratives (life scripts: Berntsen & Bohn, 2010) and the

dynamic social constructive process in which language evolved as a means of social interaction and collaboration (Corballis, 2011; Perrot-Clermont & Lamboltz, 2005). Chronesthesia is implicit in narratives (e.g., in the form of plots, storylines, and temporal reference points: Bronckart, 2005; Corballis, 2011); in the temporal origin of those narratives (past, present, future); in the temporal structure embedded in the languages used to express those narratives (e.g., verb tenses); and in the temporal qualities (or qualia: see Marshall, 1909; Stout, 2008) of the concepts expressed in those narratives. Thus, the linguistic expression of human consciousness is only possible within and is inseparable from the framework of time (Ferretti & Cosentino, 2013). Chronesthesia and mental time travel are also essential for the development of social schemas, norms, and expectations (e.g., Levine, 2006), and the development and evolution of culture and cultural artifacts (Trompenaars & Hampden-Turner, 1997; Vale, Flynn, & Kendal, 2012).

There is increasing evidence that how individuals utilize their episodic and semantic memory structures to engage in mental time travel forms the foundation for their emotional, perceptual, cognitive, and behavioral experiences and motivational intentions (e.g., Epstude & Peetz, 2012; Gilead, Trope, & Liberman, 2018; Liberman & Trope, 1998; Trope & Liberman, 2003, 2010, 2012). However, despite the fact that perception of time is implicit in all of human experience, little theoretical development exists, with the exception of Lewin's work (1942, 1951), linking human perception of time with individual differences associated with cognition, personality, and behavior, and the collective manifestation of these differences (e.g., culture). In this article, we briefly present a theory of human consciousness—the theory of MindTime—which provides a foundation for understanding individual differences. Next, we describe the development of a Russian version of the Mind-Time Profile Inventory, a multi-dimensional measure of a person's thinking perspective. But first, a little background.

Mental Time Travel and Temporal Perspective

In 1998, Liberman and Trope proposed that the degree of abstraction with which people form mental representations of objects will vary depending on the temporal distance of the objects of perception that are imagined. Specifically, the further out in time—or temporal distance—either into the future or into the past, that people, objects, and events are imagined, the more likely it is that abstract, general, simple, coherent, and decontextualized mental representations of those objects will be formed that convey the essences of information about those objects. Conversely, when objects of perception are perceived to exist in the present or near-term future, the more likely it is that concrete, complex, and contextualized mental representations of those objects will be formed that are oriented toward the details associated with the objects. Liberman and Trope (1998) referred to their theory of temporal perspective as construal level theory (CLT). An extensive series of studies by Liberman, Trope, and associates involving manipulations of temporal distance have supported the propositions of CLT (see Trope and Liberman, 2003, 2010, 2012 for reviews of those studies).

Trope and Liberman (2010) extended CLT to also include spatial and social distance along with temporal distance. People, objects, and events may vary in their spatial distance, in terms of physical (geographic) location; regarding social distance, people may vary in how socially connected they are emotionally (friends, acquaintances, coworkers, neighbors, strangers). According to Liberman and Trope (2010), the greater the psychological distance between a person and an object, the more likely it is that s/he will represent it abstractly, and conversely, the more abstractly an object is represented, the greater its perceived psychological distance. Objects that are psychologically distant are represented at an abstract level of construal because that allows for better prediction of future experiences. "Forming a comprehending abstract concept enables people to mentally transcend the currently experienced object in time and space, integrating other social perspectives, and considering novel and hypothetical examples" (Trope & Liberman, 2010, p. 442). Research has supported the propositions of the extended version of CLT theory (Fiedler, K., Jung, J., Wänke, M., & Alexopoulos, T., 2012; Henderson, Marlone, Fujita, Rohrbach, 2011; Kalkstein, Kleinman, Wakslak, Liberman, & Trope, 2016; Liviatan, Trope, & Liberman, 2008; Stephan, Liberman, & Trope, 2010, 2011; Sungar, van Koningsbruggen, & Hartmann, 2017; Zhang, Fu-ming, Hong-yu, Shi-xiao, & Ou, 2017).

It is important to note that simple manipulations of temporal, physical, and social distance, such as asking participants to adopt a past temporal perspective, a near-term temporal perspective, or a distal future temporal perspective, have been found to strongly affect how individuals mentally represent objects and events, which in turn, has been found to affect their performance on a variety of perceptual, cognitive, and social tasks.

According to the theory of MindTime (Furey & Fortunato, 2014), three temporally based and co-dependent patterns of perceptual and cognitive mental activity exist—Past, Present, and Future thinking—which correspond with innate and subjective representations of the past, present, and future as distinct temporal realities and the symbolic and conceptual representations, concepts, and qualia (qualities: Marshall, 1909; Stout, 2008; qualis-consciousness: Clarke, 2011) that emerge from those perceived temporal realities. These, in turn, influence how people localize themselves in time, perceive and process information, and interact with the world and with others (see Figure 1).

According to the theory, Past, Present, and Future thinking represent specific evolutionary advancements of consciousness that provided evolving organisms with increasingly complex methods by which to approach positively valent stimuli and avoid negatively valent stimuli (approach and avoidance motivation). In humans, these include information-processing systems such as semantic and episodic memory systems, self-awareness, the subjective perception of time, and mental time travel.

Past thinking refers to the pattern of perceptual and cognitive mental activities that occur when individuals utilize their episodic and semantic memory systems to access and reconstruct past experiences and knowledge stored in memory, so as to evaluate and make sense of current knowledge and experiences and to facilitate sound decision making. Past thinking is reflective thinking that is oriented toward

differentiating and dichotomizing experienced reality (making sense of and understanding the world).

Future thinking refers to the patterns of perceptual and cognitive mental activity that occur when individuals imagine future possibilities ("What if?"), perceive and imagine novel and innovative arrangements or solutions to personal and environmental challenges and opportunities. Future thinking is system-level, visionary, speculative, imaginative, and big-picture thinking oriented toward perceiving and pursuing opportunities, driving forward motion and ingenuity, and generating and exploring future possibilities.

Present thinking refers to the pattern of perceptual and cognitive mental activities that occurs when individuals form concrete, contextualized, goal-oriented mental representations of objects, and impose cognitive and behavioral control mechanisms, such as plans, structures, processes, rules, and schemas. Present thinking is functional thinking in which the lower-order properties of objects and relationships among objects are observed, and it occurs when people develop action plans, and organize the resources needed to execute those plans.

It is important to note that Past, Present, and Future thinking are all oriented toward maximizing current and future survival. The purpose of Past thinking is to maximize survival by determining the relevance, validity, and truth of information and knowledge, as well as of prevailing personal, social, and cultural schemas, expectations, and norms. The purpose of Future thinking is to maximize survival by allowing for flexible adaptation to ever-changing environmental circumstances, and by the generation of new ideas and solutions. The purpose of Present thinking is to ensure the success of motivational approach and avoidance systems, as well as to maintain and restore equilibrium with the environment after either motivational system is activated.

According to the theory, Past, Present, and Future thinking are mutually co-dependent, and everyone utilizes all three perspectives, but in varying degrees. For example, Past thinking allows for the reconstruction and evaluation of past experiences and knowledge stored in memory, which in turn provides the scaffolding and foundation for the generation of novel and innovative ideas and solutions by Future thinking, and the frameworks, schemas, and scripts by which Present thinking can focus on structuring the environment to increase survival. In turn, Future thinking can lead to novel and innovative ideas, methods, and solutions by which the validation processes associated with Past thinking and the planning and execution strategies associated with Present thinking can be adapted as environmental circumstances change. Similarly, Present thinking enables the integration of the products of both Past thinking and Future thinking into manifested reality, through goal setting, planning, the development of action plans, and the organization of resources to execute those plans.

According to the theory, measurable variation exists in the extent to which people utilize their Past, Present, and Future thinking; the extent to which they do so, in combination, influences how they perceive and process information and form mental representations of objects and events (cognition), form perceptual and social judgments and preferences (social cognition), develop specific goals, motivations, intentions, and preferences (motivation), communicate and interact

with others (i.e., their personality), their temperamental, emotional, and affective dispositions (Elliot & Thrash, 2008), and their cognitive, learning, and thinking styles (Zhang & Sternberg, 2006).

It is important to note that thinking perspective is not the same as time perspective or time orientation. According to Lewin (1942, 1951), individuals develop their own personal psychology based on the totality of their views of and identification with their own psychological past, present, and future (see also Lasane & O'Donnell, 2005; Lennings, 2000; Seijts, 1998; Zimbardo & Boyd, 1999). Thus, a person's time perspective or time orientation is determined by the actual content, density, coherence, and affective tone of their thoughts (see Lasane & O'Donnell, 2005, and Seijts, 1998 for a discussion of these characteristics). Conversely, Past, Present, and Future thinking refer to generalized patterns of perceptual and cognitive mental activity based on how episodic and semantic memory are used to access and retrieve past experiences and knowledge stored in memory, to organize, control, and structure the environment, or to imagine hypothetical future possibilities. Thus, whereas a person's time perspective is content-specific, their thinking perspective is not.

Past, Present, and Future thinking are similar to the patterns of perceptual and cognitive activity observed when temporal perspective is manipulated experimentally. Specifically, Past thinking is similar to the pattern of perceptual/cognitive mental activities that are observed when people are asked to adopt a past temporal perspective; Present thinking is similar to the pattern of perceptual/cognitive mental and behavioral activities that are observed when individuals are asked to adopt a near-term temporal perspective; and Future thinking is similar to the pattern of perceptual/cognitive mental and behavioral activities that are observed when individuals are asked to adopt a distal future temporal perspective.

In summary, Furey and Fortunato (2014) proposed that there are three co-dependent patterns of perceptual and cognitive mental activity based on how individuals utilize their episodic and semantic memory systems to engage in mental time travel. More importantly, they proposed that all measurable individual differences and personality traits involve the combined influence of all three thinking perspectives.¹ Consequently, based on the theory, Fortunato and Furey (2009,

¹ The conceptual and operational definitions of Past, Present, and Future thinking overlap both conceptually and operationality with different aspects of the Big Five personality traits of neuroticism, extraversion, openness, conscientiousness, and agreeableness (the five-factor model of personality, e.g., Costa & McCrae, 1992a; 1992b). Although the trait approach to personality is arguably the most dominant personality approach in psychology and one largely concerned with identifying the basic dimensions of personality required to provide a systematic account of individual differences (Boyle, Matthews, & Saklofske, 2008; Livesley & Jang, 2005), several criticisms of trait theories have been expressed (see Livesley & Jang, 2005; Livesley, Jang, & Vernon, 2003). As far back as 1957, Hall and Lindsey stated that "most personality theories have been oriented toward after-the-fact explanation rather than toward the generation of new predictions concerning behavior" (p.16; as cited in Campbell, 2008). In summary, trait-based taxonomies (and current biological approaches to personality) suffer from a lack of a consistent underlying theory as to why specific traits exist as part of the make-up of the human psyche and how they enhance biological and reproductive survival (Matthews, 2008; Michalski & Shackelford, 2008). Unlike trait taxonomies of personality, the theory of MindTime provides

2010, 2011, 2012, 2018) developed a multi-dimensional-measure English version of thinking perspective called the MindTime Profile Inventory (MTPI). The MTPI consists of 45 items (15 Past, 15 Present, and 15 Future). The inventory has been translated into French, German, Portuguese, and Japanese. In this paper, we describe efforts to translate and verify the factor structure of a Russian version of the MTPI.

Methods

Participants

Two hundred and forty-five Russian students (65% female) studying for a bachelor's degree, aged 18 to 23, participated in this research. An electronic link was sent to 500 Russian students currently enrolled in a bachelor's degree program. The link directed students to an online survey site (<https://www.smartslices.com>) from which they completed the survey.

Procedure

Questionnaire

Past, Present, and Future thinking were measured using a Russian version of the MindTime Profile Inventory (MTPI). The current English version of the MTPI from which the Russian translation was derived consists of 45 items: 15 Past thinking items, 15 Present thinking items, and 15 Future thinking items.

Original Scale Development

The MTPI had undergone several iterations since being introduced in 2009. Originally, four studies (Studies 1–4) were conducted using undergraduate students from a medium-sized university in the northwestern United States ($N = 293, 222, 614$, and 580 , respectively). The MTPI items were scored using a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree). A fifth study (Study 5) consisted of the personal and business contacts of the original authors ($N = 380$; $M_{\text{age}} = 43.87$). A sixth study (Study 6) involved 683 graduate students from an online university based in the United States. Items for the latter two studies were scored online using a 100-point (1 to 100) rating scale, with endpoints labeled “strongly disagree” and “strongly agree”.

Multiple iterative computations of principal axis structural analyses were used to determine the best set of items within and across each study. The final list of items for Studies 1–5 consisted of 7 Past items, 15 Present items, and 12 Future items. The final list of items for Study 6 consisted of 10 Past items, 14 Present items, and 10 Future items.

a theoretical foundation for understanding, in part, why individuals manifest the personality traits they do, and provides an a priori rationale for observed trait co-variation that is based on current research involving subjective perception of time, memory, and cognition, temporal perspective, the evolution of complex information-processing systems, and approach and avoidance motivation.

The results from Studies 1, 2, and 3 were combined and reported in Fortunato and Furey (2009, 2010). The results from Study 4 were reported in Fortunato and Furey (2011). The results from Study 5 were not published. The results from Study 6 were reported in Fortunato and Furey (2012). Coefficient alpha estimates of reliability ranged from 0.80 to 0.86 (Past thinking), 0.91 to 0.93 (Present thinking), and 0.84 to 0.91 (Future thinking).

Since 2010, the MTPI has been available online (www.mindtime.com). During this time, additional items were tested and the data analyzed using principal axis structural analyses, resulting in a final “long” version consisting of 15 Past, 15 Present, and 15 Future items. To date, 38,136 people have taken the inventory. Most respondents live in United States. The copyright of all versions of the MTPI and all intellectual property related to MindTime are held by The MindTime Foundation, currently based in Groningen, the Netherlands.

Translation into Russian

To provide reliable results for the Russian sample, the functional equivalence of the Russian-language and English-language versions of the MTPI was established using the translation/back-translation method (Brislin, 1986). The 45-item MTPI was first translated into Russian. Subsequently, the first author of this paper evaluated those items for accuracy. A reverse translation into English of all items was then conducted to ensure that the original meaning of the items was retained. The Appendix shows the English and Russian versions of all 45 items of the MTPI.

For each item, respondents were presented with the following instructions: “Please indicate your degree of agreement (higher percentage) or disagreement (lower percentage) with the following statement”. To respond, respondents were able to place and then slide their cursor at any location on a 100-point bar. Clicking on the bar indicated a completed response and brought forward the next item. There were two response anchors, one at the lower end of the bar labeled 0% (Strongly disagree) and one at the upper end of the bar labeled 100% (Strongly agree). Although the lower end of the bar was labeled as 0%, there were exactly 100 possible response options, not 101.

Data Analyses

Because the MTPI was based on a theoretical model that posits three underlying and correlated factors (Past, Present, and Future thinking), principal component analysis using oblimin rotation and a fixed three-factor solution was used to analyze scores on the Russian translation of the 45 MTPI items. Items with low ($< .30$) pattern coefficients and/or items that cross loaded ($> .40$ pattern coefficients) on more than one factor were deleted. (To reproduce the procedure followed by the authors of the original instrument, we also conducted principal axis analyses using oblimin rotation and a fixed three-factor solution. The final solutions from both methods were nearly identical.) After determining the best set of items, coefficient alpha estimates of reliability were computed. Scale scores were then derived by taking the statistical average for each remaining set of Past, Present, and Future items,

respectively. Descriptive statistics (means, standard deviations, skew, and kurtosis) as well as tests of normality were also computed on the scale scores. The SPSS 24.0 statistical package was used to analyze the data.

Results

Data Cleanup

A total of 245 participants completed the survey. The data were examined visually for any anomalous patterns in individual responses. Univariate and multivariate outlier analyses were conducted and univariate histograms and bivariate scatterplots were drawn. All cases were carefully scrutinized. Sixteen cases were deleted for response style bias (e.g., scores were all 100's, all 1's, or all 50's) or for inconsistent responses (e.g., alternating high and low scores on Present items), yielding a final sample size of 229 participants. Three outliers were identified but not deleted, because no discernable pattern of response bias was observed: merely low or high scores on a particular thinking perspective.

Structural Analyses

Based on the principal components factors analyses, one Past item (Past125), five Present items (Present5, Present27, Present212, Present218, Present223), and one Future item (Future4) were deemed unsuitable for use with a Russian population and were thus deleted from the Russian version of the MTPI. Thus, the final Russian version of the MTPI consisted of 14 Past items, 10 Present items, and 10 Future items. Table 1 shows the final three-factor solution of the retained items.

As shown in Table 2, scale scores on Past, Present, and Future thinking were all statistically significantly negatively skewed based on z-score analysis (± 1.96 , two-tailed). The Kolmogorov-Smirnov test and Shapiro-Wilks test indicated that scores on Past, Present, and Future thinking were statistically significantly negatively skewed. Although, as we indicated above, we had examined the data for outliers and found three potential outliers, we did not delete them from the dataset. However, these might have contributed to the statistically significant skewness of the data.

Follow-up paired samples t-tests were computed on the three means. These results were all statistically significant. Scores on Past thinking differed statistically significantly from scores on both Present thinking ($t(228) = 4.90$, $p < .001$) and Future thinking ($t(228) = 8.69$, $p < .001$), and scores on Present thinking differed statistically significantly from scores on Future thinking ($t(228) = 5.51$, $p < .001$).

Pearson's Product-Moment correlations were computed on Past, Present, and Future thinking scale scores. These results are shown in Table 3. Past, Present, and Future thinking scores correlated positively and statistically significantly with each other ($r_{\text{Past-Present}} = .567$, $r_{\text{Past-Future}} = .193$, and $r_{\text{Present-Future}} = .369$). Using only the final set of items, coefficient alpha estimates were computed. These were as follows: $\alpha = 0.918$ (Past thinking), $\alpha = 0.866$ (Present thinking), and $\alpha = 0.891$ (Future thinking).

Table 1

Pattern coefficient matrix from the principal component analysis using oblimin rotation of scores on the final 38-item Russian translation of the MTPI items. The number of extracted factors was fixed at $k = 3$

Items	Factors		
	1	2	3
Past20	0.82	0.05	0.09
Past122	0.81	0.02	0.06
Past21	0.79	0.00	-0.01
Past15	0.75	0.07	0.14
Past109	0.71	-0.03	0.01
Past113	0.71	0.01	-0.13
Past13	0.68	-0.10	-0.21
Past102	0.67	-0.01	0.11
Past19	0.61	-0.05	0.03
Past104	0.61	-0.04	-0.24
Past12	0.60	-0.06	-0.11
Past17	0.57	0.05	-0.21
Past121	0.57	0.14	-0.10
Past37	0.50	0.25	-0.13
Future2	-0.07	0.75	0.10
Future103	-0.16	0.74	-0.06
Future9	0.02	0.70	0.00
Future29	0.09	0.70	0.04
Future1	0.08	0.67	0.08
Future201	0.01	0.66	0.27
Future13	-0.23	0.66	-0.23
Future101	-0.04	0.64	-0.19
Future5	0.15	0.61	0.19
Future14	-0.12	0.61	-0.22
Future3	-0.01	0.60	-0.13
Future10	0.11	0.55	-0.18
Future20	0.13	0.50	-0.10
Future204	0.19	0.41	-0.13
Present3	-0.07	-0.01	-0.85
Present2	-0.03	0.03	-0.80
Present10	0.03	0.05	-0.71
Present4	0.03	0.25	-0.57
Present217	0.21	-0.05	-0.56
Present102	0.04	0.28	-0.55
Present26	0.17	-0.15	-0.55
Present1	0.39	-0.10	-0.49
Present21	0.02	0.22	-0.46
Present211	0.33	0.02	-0.42

Note. Pattern coefficients in bold are those that correspond with the items retained for Past, Present, and Future thinking, respectively

Table 2

Descriptive statistics of the MPTI scales for the Russian sample (N = 229)

Scales	Mean	SD	Skew	Skew SE	z	K-S	S-W	Kurtosis	Kurtosis SE	z
Past thinking	72.75	15.78	-0.37	.16	-2.31 *	.062*	.976*	-0.51	.32	-1.59
Present thinking	67.79	17.07	-0.48	.16	-3.00*	.053	.978*	-0.14	.32	-0.44
Future thinking	60.86	16.80	-0.38	.16	-2.38*	.071*	.984*	-0.29	.32	-0.91

Note. SD = standard deviation; SE = Standard Error; K-S = Kolmogorov-Smirnov test of normality; S-W = Shapiro-Wilk test of normality. * $p < .05$

Table 3

Correlation coefficients between scale scores on Past, Present, and Future thinking (N = 229)

	1	2	3
1. Past thinking	(.918)		
2. Present thinking	.567**	(.866)	
3. Future thinking	.193**	.369*	(.891)

Note. Coefficient alpha estimates of reliability are in parentheses. ** $p < .01$, 2-tailed.

Discussion

First, our findings indicated that of the 45 English MTPI items, 38 were psychometrically sound when translated into Russian and used with an undergraduate population. Moreover, similar to previous findings with American samples, scores on Past, Present, and Future thinking correlated positively with each other. According to the MindTime theory, Past, Present, and Future thinking represent three co-dependent and complementary constructs based on human subjective perception of time and the ability to engage in mental time travel.

Second, Past thinking was the dominant perspective of the Russian students. According to the theory of MindTime (Furey & Fortunato, 2014), Past thinking is manifest as sensitivity to potentially negative environmental stimuli; a propensity to avoid risks; slow and deliberate thinking; principled, judicious, reflective, and thoughtful decision making; a propensity to second-guess decisions once made; a cautious, skeptical outlook on life; fair-mindedness; and a propensity to experience psychological distress, such as depression and anxiety. Future thinking scores were much lower than either Past or Present scores. According to the theory of MindTime, Future thinking is manifest as visionary, speculative, and big-picture thinking; the ability to imagine future possibilities; risk taking; a propensity to envision novel and innovative solutions or arrangements to personal and environmental challenges and intractable problems; and sensitivity toward perceiving opportunities. Future thinking involves forward motion; the constructive disruption of prevailing social schemas; and the adaptation and reinvention

of such schemas to accelerate the pace of personal, social, technological, cultural, and spiritual evolution.

Third, mean scores of the Russian undergraduate sample on Past thinking ($M = 72.25$) and Present thinking ($M = 67.79$) were largely consistent with those of a broad-based global sample ($N = 38,136$; mostly Americans) who had taken the MTPI. The Russian scores were MPast thinking = 73.02; MPresent thinking = 68.85. Conversely, scores on Future thinking for the Russian undergraduate sample ($M = 60.86$) appeared to differ from the global sample ($M = 69.31$). The difference in scores on Future thinking between the Russian sample and global sample might be indicative of cultural differences. In the United States and other Western cultures, risk taking, visionary thinking, imagining future possibilities, being open to identifying opportunities, and being generally optimistic about oneself and the future are more strongly encouraged than in the Russian population. According to Sokolinsky (1999), the tendency to engage in introspection and reflection, spiritual searching, a focus on risks but not on opportunities, as well as an orientation to collective experience, largely define the Russian national mentality, whereas American culture is more focused on individual achievements. We recommend future research in which scores on the same set of items (one set in Russian; one set in English), especially of Future thinking, are directly compared.

The Russian-language version of the MTPI will open new avenues of research to understand how Past, Present, and Future thinking are manifest within Russian culture. For example, the Russian-language MTPI might assist educators in better understanding the learning styles of their students. In organizations, the Russian-language MTPI might be useful for understanding person–job and person–organization fit among Russian employees, which has implications for the selection and placement of job candidates, leadership, and work-team effectiveness. In counseling contexts, matching therapists' or coaches' thinking perspective to those of their clients might influence the effectiveness of the client–therapist relationship.

Finally, having a Russian language version of the MTPI opens up possibilities for further examining of cultural differences. Vale et al. (2012) argued that although the reconstruction of past events and knowledge stored in memory (Past thinking) provides the foundation for the ability to speculate about possible future scenarios and future needs (Future thinking), without transmission of shared mental models that encourage the development and expression of Future thinking, and the capacity to create new complex, efficient, and workable ideas and innovations that permeate the social structure, or to modify existing ideas, cultural evolution will not occur. Based on our preliminary findings, it appears that in Russian culture there might a need to develop and encourage Future thinking.

Preliminary cross-cultural data from North America, Europe, and Asia suggests that the theory of MindTime is generalizable across situations, domains, and cultures (The MindTime Foundation, 2012, 2013, 2014). However, we suggest additional research to examine cross-cultural differences in thinking perspective, particularly cultural variables that might differ across nations. If clear and distinct cross-cultural differences emerge, then by understanding and considering the dominant thinking perspective of each country, communication among representatives of two countries might lead to better results. For example, Future and

Past thinking can be complementary elements in the interaction of representatives of two cultures, which might make it possible to solve complex problems on the international level most effectively.

Conclusion

According to the theory of MindTime, measurable differences exist in how individuals utilize their episodic and memory systems. Based on the theory, a 45-item English version — the MTPI — had previously been developed. In this study, the 45 items were translated into Russian and administered to undergraduate students. Of the 45 items, 14 Past items, 10 Present items, and 14 Future items appeared to work well with the Russian population. Further research is needed to replicate and extend these findings.

Limitations

One limitation of this study is that we could not directly assess measurement invariance between the English version of the MTPI and the Russian version of the MTPI. Another limitation was that the sample size of Russian students was not very large. A third limitation was that the data were collected from Russian undergraduate students and thus might not generalize to the Russian population. Additional research is needed in which large samples of adults from both Russia and the United States (and other countries) are administered the same 45-item MTPI, but in their own language. The data from those studies could then be compared using confirmatory factor analyses to test for different types of measurement invariance. Finally, additional research is recommended to assess the construct validity of the Russian language version the MTPI by including measures of personality traits, such as extraversion, neuroticism, openness, conscientiousness, agreeableness, optimism, and resilience, as well as measures of other individual difference variables, such as time perspective/orientation, intellectual style, and financial risk tolerance. Possible issues in generalization of results, e.g., sample size, are limited access to data.

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Appendix

The English and Russian language versions of the MindTime Profile Items.

	English	Russian
Past12	I like to reason things out.	Мне нравится до конца продумывать, как сделать те или иные вещи.
Past13	I like to think things through before making a decision.	Мне нравится тщательно все продумывать перед тем, как принять решение.
Past15	I reflect on the facts before making a decision.	Я долго размышляю над ситуацией, прежде чем принять решение.
Past17	I weigh the evidence before coming to a conclusion.	Я взвешиваю все факты перед тем, как сделать вывод.
Past19	Only when I have the facts and information do I feel comfortable making a decision.	Я могу спокойно принимать решение, только когда у меня есть все факты и информация.
Past20	I gather as much information as I can before making a decision.	Я собираю как можно больше информации перед тем, как принять решение.
Past21	I need to verify as much information as I can before making a decision.	Я должен проверить всю возможную информацию, прежде чем принять решение.
Past37	I am known for validating information.	Меня знают как человека, который всегда проверяет достоверность информации.
Past102	I need to have proof before I commit to something.	Мне нужны веские обоснования, прежде чем я соглашусь на что-либо.
Past104	I tend to think things through carefully.	Я склонен тщательно все продумывать.
Past109	I need to understand the risks involved before committing to something.	Мне нужно понимать все риски, прежде чем согласиться на что-то.
Past113	I tend to analyze things thoroughly before making a decision.	Я склонен тщательно все анализировать, прежде чем принять решение.
Past121	I usually reflect carefully on what I know to see how it applies to the current situation.	Обычно я тщательно обдумываю все известные мне факты, чтобы понять, как они применимы к текущей ситуации.
Past122	I usually reflect carefully on what I know before making a decision.	Обычно я тщательно обдумываю все известные мне факты, прежде чем принять решение.
Past125*	When I don't know something, I will seek out additional information before making a decision.	Если я чего-то не знаю, то я ищу дополнительную информацию, прежде чем принять решение.
Present1	Being organized is important to me.	Для меня важно быть собранным (собранный).
Present2	People think of me as organized.	Люди думают обо мне как о собранном человеке.
Present3	People think of me as structured.	Люди думают обо мне как об организованном человеке.
Present4	People think I am best at planning and organization.	Люди думают, что планирование и организация — мои самые сильные стороны.
Present5*	I thrive in environments that are orderly and structured.	Я прекрасно себя чувствую в среде, где все структурировано и упорядочено.
Present10	People think of me as a follow through kind of person.	Люди думают обо мне, как о человеке, который всегда доводит дело до конца.
Present21	I am known for getting things done.	Я известен (известна) тем, что умею делать свое дело.
Present26	I am driven towards order.	Я стремлюсь к порядку.

	English	Russian
Present27*	I manage others by organizing/prioritizing tasks.	Я руковожу другими людьми, организуя задачи и определяя порядок их приоритетности.
Present102	I am good at organizing the resources needed to get things done.	У меня получается подготавливать ресурсы для достижения цели.
Present211	I like to plan my daily activities.	Мне нравится планировать свои повседневные дела.
Present212*	I have a plan for the future.	У меня есть план на будущее.
Present217	I enjoy creating structure.	Мне нравится структурировать свою деятельность.
Present218*	I like to be prepared for my day.	Мне нравится быть подготовленным (подготовленной) к новому дню.
Present223*	It is important for me that things go according to plan.	Для меня очень важно, чтобы события развивались согласно плану.
Future1	I like to generate ideas.	Мне нравится генерировать идеи.
Future2	I am known for generating ideas.	Люди считают меня генератором идей.
Future3	I thrive in environments that are flexible and dynamic.	Я уверенно чувствую себя в гибкой и динамичной обстановке.
Future4*	People think of me as a visionary.	Люди думают обо мне как о человеке со стратегическим мышлением.
Future5	I am known for invention/innovation.	Я известен (известна) изобретениями/инновациями.
Future9	I am regarded as an agent of change.	Меня считают инициатором перемен.
Future10	I am always on the lookout for new opportunities.	Я всегда ищу новые возможности.
Future13	I manage others through inspiration.	Я руковожу другими людьми, вдохновляя их.
Future14	People think of me as dynamic.	Люди думают обо мне как о динамичном человеке.
Future20	I am driven to explore.	Я стремлюсь исследовать что-то новое.
Future29	People think I am best at innovation and invention.	Люди думают, что инновации и изобретения — мои самые сильные стороны.
Future101	I am open to future possibilities.	Я открыт (открыта) для будущих перспектив.
Future103	I am able to inspire others with my vision.	Я могу вдохновлять людей своими замыслами.
Future201	People think of me as imaginative.	Люди думают обо мне как о человеке с богатым воображением.
Future204	I can easily imagine all sorts of future possibilities.	Я легко могу представить различные варианты развития будущих перспектив.

*Items with an asterisk are not part of the final Russian language version.

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The Person in Transitive and Virtual Space: New Challenges of Modality

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Objective. The aim of this study is to consider the new challenges facing psychological science today, the chief of which are the modern transitive society and network virtual space.

Design. The study consisted of two series of tests. In the first part, 150 students (ages 19-21; 80 female, 70 male) were tested on their structure of social identity and attitudes toward people of both their own and different cultures, with the questionnaires "Structure of social identity," "Level of personal anxiety," and "Attitude to native and alien cultures." In the second part, 100 people were divided into two groups, one of persons 18 to 25 years old, and another of persons 30 to 45 years old. They were asked about their attitudes toward the new technological space with the questionnaire "Attitude to new technological space," which was developed by the author in 2017.

Results. The study showed that transitional space puts people in a difficult life situation, which increases their anxiety and reduces their socialization potential, especially in a multicultural space. The data showed that under these conditions, the family turns out to be the most important group for most people, regardless of their ages or where they live.

Conclusion. A transitive society is determined by its variability, and the uncertainty and multiplicity of social and personal spaces and contexts. This situation raises the status of the family in the structure of socio-cultural identity. The experience of working with new technologies is the main determinant of people having a positive attitude toward them.

Keywords: transitive and network space, technological society, picture of the world, methodology.

Introduction

The world today can be characterized as a situation where transitivity (variability, multiplicity, and uncertainty) is becoming increasingly widespread, affecting all generations, spheres of life, and social groups (Martsinkovskaya, 2015). One must therefore proceed from the fact that in a transitive society, the plurality of contexts implies, of course, a plurality of approaches to analyzing their psychological content (Roopnarine & Carter, 1992; Osman, 2018; Pracana & Wang, 2019). One of the most important approaches, which, along with transitivity, determines the basic patterns of life of modern people, is the network, virtual space.

At the same time, we can assert the ever-increasing influence of the Internet, which is becoming progressively more important in today's changing reality. In fact, we can say that all processes of socialization and identification today are occurring in the transitive world, and that the Internet is gradually becoming one of the most important institutions of socialization, influencing cognitive development, self-realization, and communication (Castells, 1996). Thus, we can say that the patterns that determine the formation of these spaces are, in fact, the patterns of socialization and human development in modern society as a whole. The objective space and time of people's lives in the transitive world are constantly correlated with the subjective construct of space and time that a person creates in the virtual world (Barker & Bornstein, 2010)). Therefore, an analysis of their relationship will provide an opportunity to identify the difficulties that a person faces in the process of harmonizing two trends of psychological development –socialization and individualization (Borkenau & Mauer, 2006; DePaulo & Morris, 2005; *Social Psychology in the modern world*, 2002).

Rigid and fluid transitivity

The main characteristics of transitivity are the multiplicity of macro and micro sociocultural contexts, the constant variability of the surrounding world, and uncertainty. At the same time, this uncertainty is largely substantiated by variability, since it is connected with the fact that the changes have many aspects and a fan-like character. In this case, multiplicity is connected, first of all, with the expansion of the multicultural socialization space. Globalization and mass migration increase the cultural, linguistic, and social multiplicity, which further enhances the variability of the seemingly familiar environment.

The difficulty in determining the psychological characteristics of transitivity is related to the fact that a transitive society is, by definition, an interdisciplinary concept. The interdisciplinary character of the concept of “transitive society” is reflected in the differences in the ways sociologists, philosophers, and philologists understand and interpret it. At the same time, when speaking about the peculiarities of socialization and identity in the modern transitive world, it is necessary to turn to this concept's psychological component, which includes not only social transformations, but also their influence on deviations in social values and ideas, and the ambiguity of norms and attitudes.

The modern living space of people around the world is changing rapidly. At the same time, some “islands of stability” remain, which suggests that within the general situation of multiplicity, variability, and uncertainty, two interconnected aspects or phases can be distinguished: 1) rigid or crisis transitivity, and 2) fluid or

soft transitivity. At the same time, uncertainty, multiplicity, and variability remain the dominant characteristics of the general direction of the development of society, changing the degree of their cardinality.

At the turn of the 21st century, crisis or rigid transitivity dominated the world. There was a sharp transition to new forms of communication and information, and the expansion of migration processes. At the same time, two opposing tendencies, one toward globalization and the other toward isolation of small nations, were growing. All this, together with the economic crisis, led to a change in people's ideas about the world, about permanent, unshakable values, and human technological capabilities (Chan & Soon, 2011; Bauman, 2016).

It was not without reason that the first serious studies devoted to the psychological characteristics of different generations, including the analysis of new variants of interrelations among peoples of different cultures and nations with each other, appeared in the 1990s (Bauman, 2017). This was the very time when the concept of tolerance and ethnic identity was expanded. Such phenomenology indicates that the period between 1990 and 1995 can be characterized as a period of rigid transitivity (Andreeva, 2002; Arthur, 2001).

Today we can speak about fluid transitivity, which is characterized by a melting, slow but constant change in many aspects of life. That is, the period of cardinal transformations of the 1990s has been replaced by a period of constant slow changes. As a result, transformations become less radical, but remain as inevitable as they were 20 years ago (Martsinkovskaya, 2015).

From a psychological point of view, it is possible to say that crisis or rigid transitivity is a specific shock situation for people, placing increased demands on their viability and emotional stability. But psychologically, such a crisis is viewed as a passing phenomenon that must be dealt with, one which causes emotional distress in the here and now. This variant of transitivity gives hope that if we endure this unfavorable moment, then everything will be fine and stable; everything will return to normal.

On the other hand, fluid transitivity is psychologically much more difficult, as it is a transition to continuous transitivity, not to a period of stability. Changes are ongoing, varying people's lives, values, communication, information, and technological environment. In this case, people understand that these changes are inevitable and unstoppable. Such a long-term sociocultural variability leads to the actualization of the desire for peace and stability. People are tired of uncertainty (transitivity); they want to hide from it in everyday life, such as in a family, or a group of people close to them in values and aspirations (Certeau, 2013; Grishina, 2017).

Network, virtual and transitive society

The connection between network, virtual, and transitive spaces appears, first of all, in the uncertainty and multiplicity of contexts, groups, languages, and variants of identity. The uncertainty of these spaces is closely related to variability. The criteria by which people evaluate themselves and present themselves to others are constantly changing. Nowadays we have such criteria as "likes" and reposts on the network, and social status or number of citations (h-index) in reality. At the same time the number of socialization groups remains a stable and important indicator of a person's status both in the transitive real society and in a network.

Along with different types of transitivity, one can also talk about different forms of virtuality, on-line and off-line. You can also speak about the association between rigid transitivity and on-line situations. They are similar because, in both cases, it is difficult to change something once it's done; it is necessary to quickly respond to a situation, and the consequences of quick reactions are often irreversible. From this point of view, there is a certain similarity between fluid transitivity and being off-line in virtual space. Here one can gradually change one's reactions, estimations, and standards. Therefore, these situations are reversible to some extent, although it is still necessary to remember that the situation is changing. And uncertainty, multiplicity, and variability still dominate the general direction of the development of both spaces, changing the degree of their cardinality.

Therefore, the problem of overcoming the psychological and emotional discomfort and tension, a process which is essential for positive socialization in these spaces, is being actualized.

Method

The study used the questionnaires "Structure of social identity," "Level of personal anxiety," "Attitude to native and alien cultures," and "Attitude to new technological space" (Martsinkovskaya, 2017).

Participants

The study consisted of two series of tests. In the first part 150 students were tested on the structure of their social identity and personal anxiety, as well as their attitudes toward people of both their own and a different culture. In the second part, 100 participants were divided into two groups, one of people 18 to 25 years old, and one of people 30 to 45 years old. They were asked about their attitudes toward the new technological space. Both groups were divided into people who worked with new technologies (1A, 2A, $n = 50$) and those who didn't have much experience with such work (1B, 2B, $n = 50$).

All the participants gave their consent to participate in the study.

Results

Transitivity as a complex life situation

It can be stated that different aspects of transitivity are associated with different personal difficulties. Thus, variability and uncertainty are associated with the violation of the integrity of one's identity, both in its individual components, and its temporal perspective. The multiplicity makes it difficult for a person to choose a group identification and his/her direction, or the space of socialization.

Thus, we can say that the condition of transitivity can be considered a difficult life situation for most people, and thus requires various coping strategies.

A comparative analysis of what factors influence a person's choice of coping strategy in a stable or transitive society makes it possible to identify some important differences. In a stable situation, the choice of a coping strategy depends mainly on individual and personal characteristics and the social situation. At the same time,

an individual's values and norms of behavior, including behavior in difficult situations, are transmitted in the process of socialization from older to younger people. In a transitive society, the process of transferring knowledge is very flexible, in accordance with the laws of "liquid" socialization, and depends not only on the micro space, but also on the macro space, such as the spaces of large and small cities.

In a stable society, the level of complexity of a person's life situation is estimated based on the degree of heterochrony, and the imbalance of the social and personal parameters of the chronotope. In the transitive world, this heterochrony is always present, so the complexity of the situation is estimated depending on its ratio within the individual's personal space and time as a whole. In this context, it is necessary to emphasize that, for the study of constantly changing interrelations of time and space, the construct of a person's psychological chronotope is most adequate, as will be discussed more detail below.

Thus, we can state that in a stable society, the choice of options for coping strategies depends on such personal qualities as emotiveness, locus of control, intentionality, and, in part, general intelligence.

In a transitive society, the choice of coping strategies depends on the relationship between one's personal and socio-cultural identity, tolerance for uncertainty, cognitive complexity, and flexibility.

In a stable society, an emotionally colored and personally relevant experience is of great importance; in an informational and transitive society, along with one's own experience, impersonal and generalized information begins to play an increasingly important role.

The fact that a complex multicultural transitive society is a complex situation that causes difficulties and emotional discomfort in the process of socialization is also proven by the study of the structure of sociocultural identity (See *Table 1*).

Table 1
Structure of social identity

Social identity	Number of points	Placed by priority
I, as part of the family	79	1
I, as a representative of my gender	147	2
I, as a representative of my generation	169	3
I, as a citizen of my country	171	4
I, as a representative of my nationality	189	5
I, as a representative of my profession	191	6
I, as a native speaker	194	7
I, as a resident of my city	206	8
I, as a representative of my culture	209	9
I, as a representative of group of my hobbies	210	10
I, as a representative of humanity	215	11

A comparative analysis of our data shows that in the current situation, the family turns out to be the most important group of reference for most people, regardless of their ages or where they live. Apparently, this is due to the fact that in transitivity the most stable group remains the family, which plays the role of both shelter and support.

The next most important rankings are occupied by the groups “I, as a representative of my generation,” “I, as a representative of my gender,” and “I, as a citizen of my country.” Identification with a large group may also indicate people’s desire to find support from a significant, but poorly structured community (boys/girls, citizens). Such an identity creates the illusion of community and emotional support from the majority. The fact that the group is informal and often not personalized does not destroy this illusion, which is often dispelled during actual contacts with specific representatives of the large group.

The leading role of the family as a group of socialization increases substantially for all respondents who have moved to another country. It can be assumed that the role of the family as a source of emotional defense and support in the changed, that is, rigid transitivity, increases significantly, providing the emotional comfort necessary for positive socialization. Also important is the fact that, with a relatively stable role of ethnic identity, the role of linguistic identity increases significantly in a situation of changes in the socio-cultural environment. This fact may indicate that, in a situation of rigid transitivity, language, as a phenomenon of one’s native culture, can, like the family, fulfill the role of emotional protection. Identification with one’s age group remains consistently high.

In general, we can state the dominance of social emotions associated with the desire to “hide” from the difficulties that always arise in the process of socialization, especially in a complex and changing world. At the same time, the individual emotions that help a person to find support in interests and hobbies (i.e., personal individuality) are expressed very little. A negative characteristic of transitivity is also the high level of anxiety exhibited in many young people (See *Figure 1*).

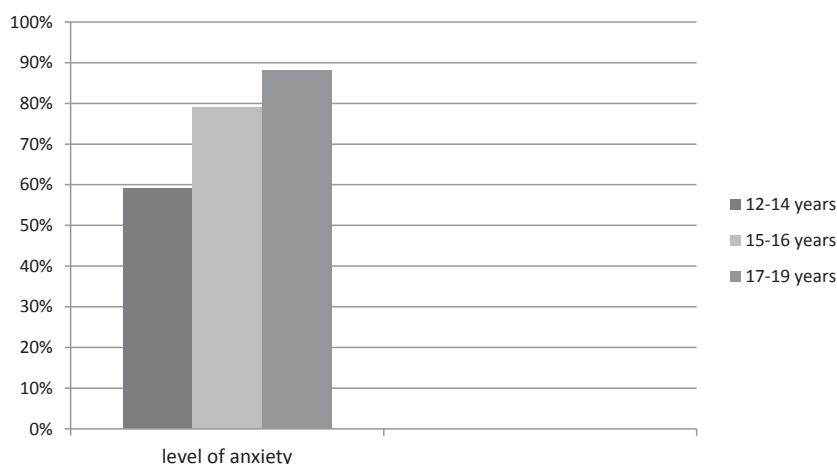


Figure 1. The overall level of personal anxiety.

The sense of uncertainty is connected with ambiguity about the desired future. Young people's great fear and distress is especially associated with concern about their material well-being in the future, as well as the possibility of achieving their desired role identity. Young boys and girls are less worried about self-realization, i.e., the opportunity to find themselves in interesting and creative activities. Boys, unlike girls, have very little interest in their future family lives.

Representations of native and alien cultures in the picture of the world

Previous works have studied the general level of ethnocentrism (Martsinkovskaya, 2015; Pracana & Wang, 2019). Here we present the average data obtained in different regions.

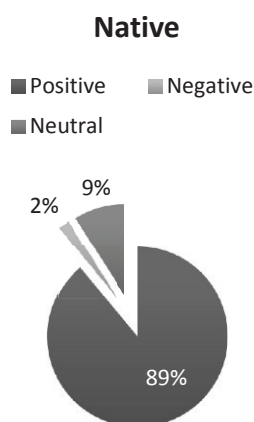


Figure 2. People of my native culture

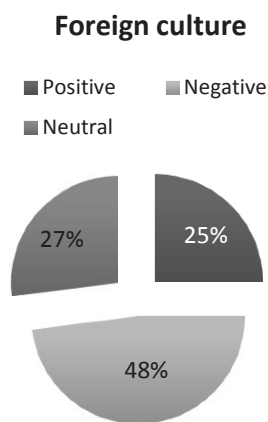


Figure 3. People of foreign culture

As can be seen from the data, the majority of respondents rated people of their own culture and nationality significantly higher than people belonging to other, especially unfamiliar, cultures.

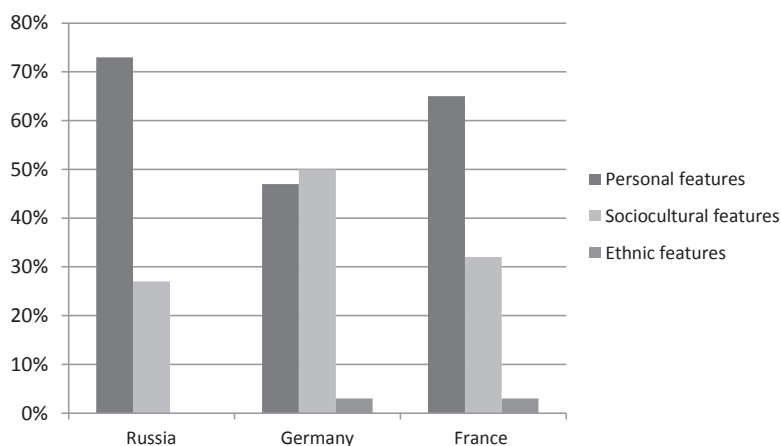


Figure 4. How I am judged by people of my own culture

At the next stage of the study, the participants were asked to answer the question of by what characteristics they are judged by people from their own or a foreign culture.

As can be seen from the results (See *Figure 4*), people assume that representatives of their own culture can esteem their individuality and evaluate them, proceeding, first of all, from their personal characteristics rather than their role or sociocultural characteristics. It is remarkable that in Russia, when assessing people of their native culture, people do not consider ethnic characteristics, which, albeit to a small extent, are present when people of another culture are judged. It is also interesting that in Germany the personal and sociocultural characteristics are almost equally present.

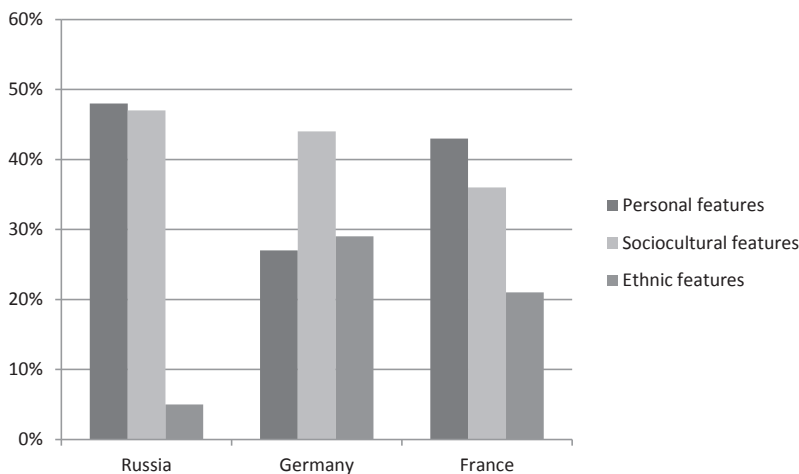


Figure 5. How I am judged by people of a foreign culture

No less interesting are the results of the answers to the second question (See *Figure 5*). The majority of respondents believe that people of a different culture will see them as personalities, not representatives of another, alien large group. Despite a significant increase in assessments related to ethnicity, personal and sociocultural characteristics also dominate. Thus, we can say that the evaluation of people of a different nationality is affected by the typical effects of the psychology of social cognition.

The attitude toward the new technological space

At present, we can assert that we are in the midst of civilizational, not only social, change, which is associated with the emergence of not just a new technique, but a new technology, a new technological space (Castells, 1996; Marcus, Machilek, & Schütz, 2006; Berzonsky, 2008; Martsinkovskaya, 2018). New technologies have become an integral part of modern life, and their influence is becoming more extensive and comprehensive. We are entering a different era, perhaps a new era of civilization, whereby technological society has already passed to a stage in which technology is not external to humans. Man now perceives machines not so much as mechanisms or simple tools, but as part of our environment, often as a continuation of our mental abilities. Apparently, one can say that technical means are internalized by

people, determining their specific perception of the world, interaction with objects, and communication with others. Modern means of communication and movement have transformed both the space-time continuum itself and our understanding of it. Indeed, we are no longer able to predict the results of the impact of our words, since the response to our words may return to us in a completely different dimension, in another part of the world, in another language.

One of the main bases for this development is the existence of social networks. It can be stated that any social network is perceived by the majority of users as a personal page with its unique and carefully stored content: status, videos, photos, and texts. This page actually becomes a reflection of the world-image of the modern youth. Therefore, it is important to understand not only the causes of the expanding space of social networks in people's image of the world, but also their development trends.

The value of social networks is connected with several factors:

- They help to remove (or significantly reduce) communication barriers (both personal and social);
- They expand the borders of an individual's world-image, constructing new pictures of reality;
- They help provide a "virtual experience" and support for deciding whether I want to get this experience in reality;
- They give people the opportunity to match the modern pace of life.

Our research material shows that modern social networks fulfill both young people's need for information and contacts, and their need for emotional saturation.

Based on the analysis of social networks, it can be assumed that in the near future, due to the spread of high-speed and affordable Internet, social networks will be focused not only on pages in popular groups, but on streaming video. The online broadcast gives the user a unique opportunity to participate in the many different events which take place at the same time. The streaming video will probably soon be replaced by virtual and augmented reality systems.

The transformations of the psychological phenomenology and psychological regularities about the world, and the attitudes towards a new reality that occur in a modern technological society, pose new goals for psychology. These new tasks are connected with investigation of the factors that determine people's acceptance or rejection of new technologies and a new socio-cultural space.

That's why it is very important to analyze the attitude of different age groups (people aged 18 to 25 years and 30 to 45 years) to the new technological space. Both groups were divided into people who worked with new technologies (1A, 2A, $n = 50$) and those who didn't have much experience with such work (1B, 2B, $n = 50$).

The study's results about the tolerance of new information technologies showed that in the groups which were connected with new technologies (1A, 2A), 96% of respondents, regardless of their age, demonstrated a positive attitude toward the new informational space. Respondents from group B showed a lower level of tolerance of new technologies, and there were some differences in the answers according to age: 1B showed 63% tolerance, and 2B 54% tolerance.

More revealing were the answers about attitudes toward various characteristics of the technological space (see *Table 2*).

Table 2

Tolerance of various characteristics of technological space

Participants	Characteristics of the technological space			
	Internet %	Medical techniques %	Communication and movement %	Robots %
Group I A	89	66	89	43
Group I B	88	52	88	21
Group II A	62	82	67	40
Group II B	39	81	51	7

We can see that the young respondents (group A) actually identify communication and information with the Internet. The overwhelming majority have a positive assessment of these elements of the technological space. In group B there is a division between communication and the Internet, the attitude toward which, especially among people who have little to do with the Internet, is ambivalent, and often even negative. On the contrary, the achievements of medicine are more positively assessed by adults, perhaps due to the fact that they are beginning to think about future treatment. It is interesting that all respondents, even those who deal with automated types of production, were hardly tolerant of robotics. Their negative assessments were mainly connected with moral aspects, but in practice, there were no answers based on purely technical assessments (for example, facilitate the work) or fears about the possibility of losing a job. Thus, it can be said that most people's general idea of a technological society is coherent with ideas about the Internet, while an understanding of the complex multidimensional reality associated with the development of technologies is only realized by a small number of people, mainly those who are professionally associated with it.

Discussion

Modern reality can be viewed as a complex, multidimensional space-time construct, including external, social, and personal individual spaces, as well as objective and subjective time parameters. The psychological essence of this construct is associated with the subjective attitude towards its components, expressed in people's social and personal emotional experiences, values, and intentions.

Ideas about the heterochrony of the psychological chronotope are extremely important in investigations of modern space-time, which is characterized by its inclusion in the information-network space and technological society. Technologies enhance the chronotope heterochrony, as they can significantly change the direction and speed of interaction of people with each other, objects, and information.

Taking into account the fact that under modern conditions, transitive and virtual spaces are connected, it can be said that psychology must use a complex methodological construct that goes beyond the framework of one methodological system, and represents a kind of methodological collage.

This methodological collage can be presented as a variant of a large system in which it is important to understand the individualization of results: that is, to build a model in which there is always an inverse relationship between the phenomenon and the interpreter. In addition to including different types of transitivity in a new enlarged methodological construct, the Internet and modern transitive reality spaces must be connected. At the same time, it is necessary to take into account the relationship between external, social, and internal subjective space-time (external and internal forms of psychological chronotope). The important mechanism in this new construct will remain the concept of emotional experience.

Conclusion

The current situation, in which transitive and virtual spaces are combined, has become the main challenge of modernity. A transitive society is determined by the variability, uncertainty, and multiplicity of social and personal spaces and contexts,

The increased heterogeneity between time and space in the social and personal dimension, which is one of the central laws of the transitive and virtual space, makes it adequate to use the construct of the psychological chronotope for carrying out theoretical and empirical research. The combination of the external and internal forms of the psychological chronotope, with the acceptance of the two levels of determination of psychological development, is productive in the current situation.

Transitional space is a difficult life situation for many people. It reduces the socialization potential of respondents in a multicultural space. It can be assumed that uncertainty and variability increase the heterochrony of both the social and the personal chronotope in a multicultural rather than in a mono-cultural space.

In the situation of both rigid and fluid transitivity, the need for emotional protection and comfort increases. This fact raises the status of the family in the structure of socio-cultural identity.

Given that the new cultural environment is poorly understood and difficult for many people, an important point in the new methodology will be the operationalization of the psychology of everyday life as a way of coping with the new challenges. Everyday life will be considered a specific strategy for coping with the multiplicity and variability of contexts, making it possible to restore identity and integrity to one's daily life.

We must also consider the fact of a significant discrepancy between the way people assess specific people from a foreign culture, and their overall assessment and attitude toward a large group of people from a different culture and language. It can be assumed that the fact of ethnocentrism is associated with different content of a culture's structural links, which opens ways for constructing a model of complementary, corresponding, and orthogonal cultures.

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