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ENTREPRENEURIAL INTENTION, VALUES, AND THE REASONED ACTION APPROACH: RESULTS FROM A RUSSIAN POPULATION SURVEY

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: PSYCHOLOGY
WP BRP 12/PSY/2013

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ENTREPRENEURIAL INTENTION, VALUES, AND THE REASONED ACTION APPROACH: RESULTS FROM A RUSSIAN POPULATION SURVEY[4]

This article examines the relationship between value orientations and entrepreneurial intention according to the reasoned action approach. The empirical base of this study are the results of a representative survey conducted in 2 regions of Russia (Central Federal District and the North Caucasian Federal District). The effective total sample size was 2,058 and a subsample of 269 was selected. The subsample was composed of the respondents intending to open a business in the next 2 years. The results of research, carried out in the framework of reasoned action approach, allowed us to confirm the validity of the theory of planned behavior (TPB) in the Russian sample. It was also found that the values included in the block of self-direction autonomy of action are positively associated with the components of model of entrepreneurial planned behavior (attitudes, subjective norm, perceived behavioral control).

JEL Classification: Z.
Keywords: theory of planed behavior, theory of basic individual values, entrepreneurial behavior.

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[4] The results of the project "Values and economic behavior: examination of explanatory models in experiments and field studies", carried out within the framework of the Basic Research Program at the National Research University Higher School of Economics (HSE) in 2013, are presented in this work.

1. Introduction

In Eastern Europe an increase in entrepreneurial activity has been a major challenge after the intensive transformation process from a communist system to a market economy. Entrepreneurial intentions reflect best the commitment of individuals to start a new business (Engle et al. 2010).

As entrepreneurial activities are important determinants for long-term economic growth (Hmieleski and Baron 2009), understanding these determinants is central to an economy's well-being (Sternberg and Wennekers 2005). In recent years there have been several studies using the reasoned action approach (Fishbein and Aizen 2010), also often referred to as the theory of planned behaviour (TPB; Aizen 1991), as a theoretical framework to explain entrepreneurial intention and behaviour. The empirical results corresponded to those of the general meta-analyses summarised in Fishbein and Aizen (2010). However, for closing the intention-behaviour gap, Gollwitzer (1999) has argued that it is necessary to introduce the concept of implementation intention. These implementation intentions are usually formed after a general intention has been formed and fully mediate the effect of intention on behaviour. In addition, which roles values play and whether values have either a direct or indirect effect on intentions was discussed (Linan 2008).

In our paper we address these issues by answering the following research questions using a subsample of our large population sample:

1. Can we establish both convergent and discriminant validity for the concepts of attitudes, norms, perceived behavioural control (PBC), intention, and implementation intention?
2. Are we able to confirm the postulated model of TPB including implementation intention with Russian population data?
3. Which of the new values of the enlarged concept of human values of Schwartz et al. (2012) have predictive and explanatory power for the intention to start a new business, and are their effects fully mediated by the constructs of TPB?
4. Are the effects of the demographic factors studied in the literature such as gender, education, age, and self-employment fully mediated by attitudes, norms, and PBC as postulated by Fishbein and Aizen (2010)?
5. Finally, we use the total sample data to answer the question of how two culturally and religious diverse regions (central Russia and Caucasus region) influence, beyond values and demographic factors, the intention to start a new business.

In the next section we present our theoretical rationale which is based on TPB, the concept of implementation intention, the value concept of Schwartz, and the role of selected demographic

attributes, and we derive the propositions that are examined from these approaches. Furthermore, we discuss the existing empirical evidence for the different propositions. Following this, in section 3, we describe our Russian sample and the measurement instruments. The main empirical results are presented in section 4. In Model 1 we summarise the results of the simultaneous confirmatory factor analysis for testing the convergent and divergent validity of attitudes, norms, PBC, intention, and implementation intention. Model 2 gives the results of a structural equation model for explaining the implementation intention to start a new business in Russia. In Model 3 we add values and relevant demographic attributes as predictors and test whether their effect is fully mediated by attitudes, norms, and PBC. Finally, in Model 4 we present the determinants of the intention to start a new business in Russia by using the data from our large sample, which only contains measurements for values and demographic variables but not for the constructs of TPB. In the final section we summarise the main results and give an evaluation of the limitations of our study.

2. Theory

Intentions are indications of a person's readiness to perform a specific behaviour (Fishbein and Aizen 2010, p. 39). Starting a business represents clearly planned and intentional behaviour, and this has been discussed intensively in entrepreneurial research (Bird 1988, Krueger and Carlsrud 1993; Carsrud and Brannback 2009; Linan and Chen 2009). However, in recent years Gollwitzer (Gollwitzer 1999; Gollwitzer and Brandstätter 1997; Gollwitzer and Sheeran 2006) has argued that the step from intention to behaviour has to be analysed in more detail. He proposed a new concept called "implementation intention" which comes out of the more concrete steps people undertake to reach a certain goal. Such additional steps seem to be effective because they allow people to delegate control of their goal-directed behaviours to the social context (the stimulus situation). Examples in the context of entrepreneurial research are questions of whether people have started to write a business plan or attempted to borrow money from a bank.

Empirical studies have confirmed the relevance of implementation intentions as bridges between general intentions and concrete behaviour (Gollwitzer and Sheeran 2006). However, Aizen et al. (2006) have challenged this by arguing that it is the commitment, and not the implementation intention, which leads to a higher consistency between intention and behaviour. We tried to replicate this finding in a field study but could not establish sufficient divergent validity of the concepts of intention, implementation intention, and commitment (Zercher 2010). Therefore, the role of implementation intention is still not settled.

According to TPB, attitudes toward behaviour, social norms, and PBC are the only direct and positive antecedents of intention, which has been confirmed by a series of meta-analyses (Fishbein and Aizen 2010).

Given the overwhelmingly positive empirical evidence we can now formulate explicitly the propositions derived from TPB and combine them with the concept of implementation intention:

H1: The greater the intention to start a new business, the higher is the implementation intention to start the new business.

H2: The more positive the attitude toward starting a new business, the greater the intention to start a new business.

H3: The higher the PBC concerning the start of a new business, the greater the intention to start a new business.

H4: The stronger the social norms for starting a new business, the greater the intention to start a new business.

Hypotheses H2 – H4 are derived from the theory of planned behaviour, and H1 is part of Gollwitzer's (1999) concept of implementation intention.

Fishbein and Aizen (2010, p. 22) argue for a series of more distal background factors (individual, social, and informational) influence attitudes, norms, and PBC. In the context of our research and taking into account the limited interview time, we have selected those which were seen as especially relevant and/or had some supporting empirical evidence. Within the group of individual determinants, the concept of values has become especially important in recent years. Because of its theoretical foundation and its refined measurement instruments, we have chosen to use Shalom Schwartz's (1992) value theory in the present study.

Both on an empirical and theoretical level, a systematic comparison of the most prominent value concepts of Hofsteede, Inglehart, and Schwartz is still missing. However, comparisons of the value theory and measurements of Ingelhart and Schwartz show a higher reliability and validity of the value dimensions of Schwartz (Siegers 2012; Datler et al. 2013).

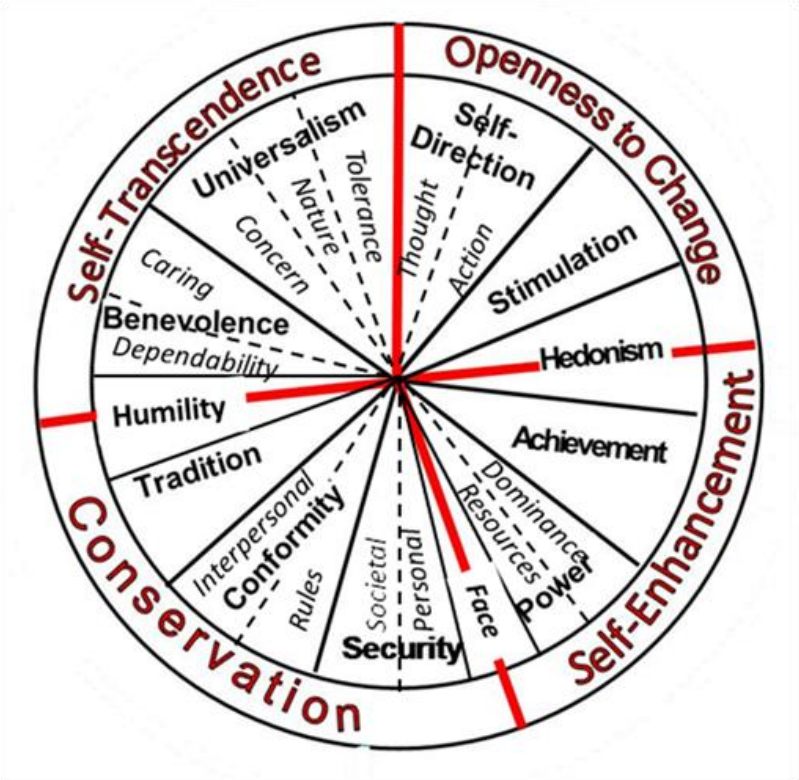
The original theory specifies 10 basic values that are ordered in a circular motivational structure. Schwartz (2012) has proposed a refinement of the theory and the measurement of these 10 basic human values to reduce the problems of reliability and validity. He suggested a substantial increase in the number of values and proposed to partition the continuum into 19 more narrowly defined, conceptually precise and discrete values instead of the original 10. In pretest studies we translated and validated the new instrument for use in the present research. Schwartz (1992) suggested that the value structure could be summarized by distinguishing four higher-order values that form two dimensions:

self enhancement vs. self-transcendence and openness to change vs. conservation. The values grouped within each of the four higher-order values often exhibit similar correlations with a large number of different behaviours, attitudes, and personality variables (Schwartz 2006). Furthermore, Schwartz (2012) postulates that the latent variables for each of the 19 variables should load on the appropriate higher-order variable. Three of the original 10 values, that is, hedonism, stimulation, and achievement were so narrowly defined that they required no further subdividing. The others were subdivided based both on conceptual considerations and empirical evidence.

Figure 1 illustrates the theorized circular motivational structure of the 19 values including the 10 basic values and the four higher-order values.

Viewing Figure 1 one can see that there are four higher-order factors, namely, self-transcendence, openness to change, self–enhancement, and conservation. For the prediction of innovation and entrepreneurship, the values openness to change and conservation are the central ones and these will be examined in more detail. Self-direction is comprised of self-direction of thought and self-direction of action and is part of the higher-order factor openness to change. Stimulation is a subdimension of openness to change whereas hedonism partly reflects openness to change and self-enhancement. The conservation values are represented by security, conformity, tradition, and partly humility. Conformity and security each have two subdimensions.

Figure 1: Revised Schwartz value concept (Schwartz et al. 2012)



This expansion from 10 to 19 values increases without doubt the complexity of the theory. Now the question of how to derive propositions for explaining attitudes, norms, PBC, intention, and behaviour by values arises. In principle, one can formulate propositions on the level of the four underlying basic concepts, on the level of the 10 values, or on the level of the 19 values.

As starting a new business can be regarded as a type of innovation, we use the conceptual model of Fishbein and Aizen (2010, p. 22) to generate more specific propositions relating specific higher-order values and attitudes, norms, and PBC (Jaccard and Jacoby 2010, pp. 137-176). Openness to change values like self-determination and stimulation especially promote the motivation to act innovatively including starting one's own business. This should lead to a more positive attitude toward starting a new business and could also lead to higher perceived norms, because of the selection effects (homophily) within social networks. However, we would expect small effects on PBC due to cognitive dissonance effects. Openness to change might lead to a downward bias in the perception of difficulties and barriers. Explicitly one can formulate the following hypotheses:

H5: The higher the openness to change values, the more positive is the attitude toward starting a new business.

H6: The higher the openness to change values, the more positive are the norms concerning the start of a new business.
H7: The higher the openness to change values, the higher the PBC.

Conservation values should have the opposite effects. If, for people, personal and societal security is a very high value, the risk for starting a new business will be threatening and their attitude toward starting their own business will tend to be more negative. Similarly, people with high conservation values will tend to display lower PBC. For tradition and conformity we also expect negative effects on attitudes because starting a new business, like other innovations, very often challenges traditions and ongoing practices. Because of the selection effect in social networks discussed above, we assume that highly traditional and conformist people tend to also have (extensive) social networks which are very traditional and conformist, and this might lead to more negative norms concerning the start of a new business. Finally, the values of tradition and conformity may lead to lower levels of perceived control as these values possibly lead to an upward bias in the perception of the difficulty of starting a new business. The explicit propositions are elaborated in the following three hypotheses:
H8: The higher the conservation values, the more negative the attitude toward starting a new business.
H9: The higher the conservation values, the more negative the norms concerning the start of a new business.
H10: The higher the conservation values, the lower the PBC.

Because of the high multicollinearity of models with all 19 predictors, it is practically impossible to use them simultaneously. On the other hand, the use of the higher aggregated constructs like openness to change leads to a reduction of the multicollinearity problem, but may lead to an aggregation bias and may hide specific effects of certain values on attitudes, intention, and behaviour.
Therefore, we selected those values of the higher-order dimensions openness to change and conservation which, according to both theoretical and empirical evidence, seem to be the most promising predictors of attitudes, norms, PBC, intention, and behaviour.
Referring to the empirical evidence, Schwartz (2008) found that adopting technological innovations correlated positively with stimulation and self-determination and negatively with security, tradition and conformity. A similar finding concerning the relation between values and attitudes toward innovation was reported by Lebedeva and Schmidt (2012).
Finally, we want to discuss the relation between demographic variables and values on the one hand, and attitude, norms, and PBC on the other. There are both good theoretical reasons and empirical

evidence that demographic variables are related to values (see Meuleman et al. 2012; Schwartz 2006). The connecting link is often called the social mechanism (Hedström 2005), which explains, for example, why there are specific connections between certain demographic variables and certain values. Up to now gender is one of the most studied demographic variables (Haus et al. 2013). To summarize the results, gender has been found to have no effect on conformity, tradition, and security, whereas men tend to have higher scores on hedonism, stimulation, and self-determination. Concerning age, findings reveal that with increasing age people have higher scores on security, conformity, and tradition and lower scores on hedonism, stimulation, and self-determination. Education showed a negative relation with security, conformity, and tradition, whereas it is positively associated with stimulation and self-determination. These findings were confirmed in an empirical study of 18 European states using data from the European Social Survey in 2002, 2004, and 2006 (Meuleman et al. 2012). It seems that the gender differences are related to the division of work in the European societies studied, leading to gender-specific roles.

The difference between age groups could be explained as follows. As people grow older they generally become accustomed to certain habitual patterns. As a consequence, older persons will put more stress on conformity, tradition, and security. Education enhances cognitive capacities, intellectual openness, and breadth of perspective. This might be the reason why more highly educated people have lower scores on tradition, conformity, and security and higher scores on self-determination and stimulation.

For the effect of parental self-employment on values it seems to be that by vicarious learning from role models (Bandura 1986), the postulated effects on openness to change values and conservation values can be explained. We now want to refer to the relationship between demographic variables and the constructs of the theory of planned behaviour. The empirical results show good evidence for full mediation concerning the effect of the demographic attributes on intention and behaviour. That is, all the effects of the demographic variables on intention and behaviour are fully mediated by attitude, norm, and PBC. As the effect of the demographic variables may change according to the behaviour studied, it is very difficult to set up general hypotheses (Fishbein and Aizen 2012, p. 224 ff).

To test the hypotheses we specified a sequence of models, described below. We start with the test of the underlying measurement model of TPB to establish its convergent and divergent validity using a subsample of our representative sample. Then we proceed to test a structural equation model to explain intention and implementation intention to start a new business in Russia. Next, we enlarge the model by testing whether the effects of values and demographic variables on intention are fully mediated by attitude, norms, and PBC. Finally, we present a model for the large sample consisting of only values

and demographic variables because the concepts of TPB were not assessed in the large sample due to the problem of non-attitudes.

In Model 1 we tested the convergent and discriminant validity of the five concepts: attitude toward the behaviour, social norms, PBC, intention, and implementation intention using confirmatory factor analysis.

In Model 2 we specified the intention to start a new business as the dependent variable. However, we added the construct of implementation intention which is a bridge between intention and behaviour as being influenced positively by intention alone (see Gollwitzer 1999). We assume that the effect of attitudes, norms, and PBC on implementation intention is fully mediated by intention. According to TPB we postulate that attitudes toward the behaviour, norms, and PBC have a significant positive effect on the intention to start a new business.

In Model 3, we take up Fishbein and Aizen's (2010, p.22) idea that values, as more general and distal constructs, should neither influence behaviour nor intention directly and thus expand the model. They argue that the effect should be fully mediated by attitudes toward the behaviour, norms, and PBC.

They do not specify exactly which values could play a role. According to the theoretical arguments discussed above, we would predict that openness to change values would have a positive effect on attitudes, norms, and PBC. In contrast to that, high personal and societal security values should influence attitudes toward starting a new business negatively. The same would be predicted for tradition and conformity. That is, tradition and conformity values will have a negative impact on attitudes, norms, and PBC starting a new business.

The existing propositions on the effects of education, professional status of father and mother, gender, and age specify them often as direct determinants of entrepreneurial intention (e.g. Haus et al. 2013). However, as Fishbein and Aizen (2010, pp. 224-235) argue, they influence intention and implementation intention only via attitudes, norms, and beliefs.

To take these into account, we have included them as additional correlated exogenous variables.

They influence values and attitudes, norms, and PBC directly but have no direct impact on intention and implementation intention as their whole influence is also fully mediated by attitudes toward the behaviour, norms, and PBC.

In Model 4 we use the total sample, but test the effects of values and demographic attributes on the intention to start a new business.

The added value of the paper can be summed up by the following four aspects:

a) By taking the concept of implementation intention into account, we have modified the use of TPB in entrepreneurial research in an important way.

b) By expanding this model through the introduction of values and demographic variables as predictors of attitudes, norms, and behavioural control, we specify and test empirically an integrated model for entrepreneurial research.

c) By using the newest version of the Schwartz value instrument with 19 values we can test the effect of the most differentiated set of values on entrepreneurial intention by taking into account relevant demographic variables like age, gender, and employment status of parents.

d) All the analyses are based on data from a transition country (Russia) which experienced a radical change of economic system, and the final model includes the data of a large representative sample from Russia.

3. Sample and Measurements

3.1. Sample

Between June 2012 and August 2012, a representative sample of Russian adults from two large states (okrugs) was drawn up and persons aged 18 to 60 years of age (inclusive) residing in private households were selected.

We employed a multistage (3-stage) area sample. The effective total sample size was 2,058 interviews: 1,024 personal interviews in the Central federal state including the city of Moscow and 1,034 personal interviews in North-Caucasian Federal state. It was necessary for the purposes of the present research to select for further analysis only those respondents who were planning to start up a business in the near future. This strategy was selected based on the finding that when questioned about certain issues, people who have not given any thought to the issues under consideration often provide random answers (the non-attitude problem) or no answers at all (Saris and Sniderman 2004; Steinmetz et al. 2010). From the original sample of 2,058 interviewees, 269 individuals had indicated that they planned to start up a new business during the course of the next 2 years while 1,789 individuals did not. Only persons belonging to this subsample of respondents planning to start a business answered the questions concerning the theory of planned behaviour.

The distribution of respondents from the total sample and the subsample according to gender, age and education are presented in tables 1, 2 and 3.

Table 1. Distribution of respondents according to gender

Sample	% males	% females
269 people who are planning to start a new business during the next 2 years	57.6	42.4
1,789 people who are not a planning to start a new business during the next 2 years	41.2	58.8

Table 2. Distribution of respondents according to age

Sample	Mean	Median	St. Dev.	Range	t-value
269 people who are planning to start a new business during the next 2 years	32.2	30	10.2	42	9.36***
1,789 people who are not a planning to start a new business during the next 2 years	38.8	39	12.6	42	

***** p < 0.001**

Table 3. Distribution of respondents according to educational level

Education	Percentage (*n* =269) / Percentage (*n* = 1,789)
Basic secondary education	1.5/3.6
Full secondary education	13.5/14.6
Vocational training with incomplete general education	1.1/2.7
Vocational training with complete general education	4.9/5.3
Specialized secondary education	27.7/31.6
Incomplete higher education (up to 3rd grade)	10.9/8.3
Higher education (bachelor‘s degree)	4.1/5.7
Higher education (specialist diploma)	34.1/26.3
Higher education (master‘s degree)	0.7/1.3
Academic degree stage I –PhD	1.5/0.3
Academic degree stage II –PhD	0/0.1

In Table 1, one can see that there are more men in the subsample than in the total sample. Furthermore, the persons who intend to start a new business are significantly younger and better educated than the total sample (Tables 2 and 3).

Table 4 presents the distribution of the professional status of respondent’s parents, assessed retrospectively at the respondent’s age of 14 years. Participants were asked the following question:

When you were 14, did your father (mother) work as an employee, was he (she) self-employed, or was he (she) not working at that time?

Table 4. Distribution of professional status of respondents' parents assessed retrospectively at age 14 years

Professional status	Father % (for 269)	Father % (for 1,789)	Mother % (for 269)	Mother % (for 1,789)
Employee	68.4	65.1	62.5	53.7
Self-employed	10.5	5.5	4.8	4.1
Not working	5.1	6.9	26.7	26.1
Father/Mother deceased/absent when respondent was 14	16.0	22.5	6.0	6.1

An interesting finding, revealed in Table 4, is that presently in Russia the father's self-employment status is twice as high only for those who intend to start a new business, whereas no difference is found for the mother's self-employment status.

3.2. Methods of the study

3.2.1. Entrepreneurial behaviour evaluation using TPB

As this was a multitopic study with a limited time frame, our questionnaire included only the direct measure of TPB (Fishbein and Aizen 2010, pp. 449-451). The operationalization was done according to the proposal of Aizen (2006) and adapted to our research question, which was the explanation of entrepreneurial intention and behaviour. The behaviour itself was defined as follows: *Entrepreneurial behaviour is starting one's own business instead of employment with private or government organisations.*

- Intention was measured by 2 items (d3.2 and d3.4, see Appendix A). An example item was: *I expect to start a new business within the next two years and answers were given on 7-point rating scales with response options -3 (Strongly disagree) to 3 (Strongly agree).*
- Attitude toward the behaviour was measured by 2 items (d5.1 and d5.3, see Appendix A). An example item was: *The idea of starting a business within the next two years is for me... -3 (Very inappropriate) to 3 (Very appropriate).*
- Subjective norms were measured by 2 items (d6.1 and d6.2, Appendix A). An example item was: *Most people who are important to me think I should start my own business within the next two years -3 (Strongly disagree) to 3 (Strongly agree).*

- PBC was measured by 2 items (d7.1 and d7.2 (reverse coded), see Appendix A). An example item was: *For me to start a business within the next two years is... -3 (Very difficult) to 3 (Very easy).*
- In addition, we measured implementation intention (Gollwitzer 1999) using 3 items (d4.1, d4.2a, d4.2d, see Appendix A). An example item was: *Please tell me at what stage of starting new business you are right now? Are you currently developing a product/service? 1 (I'm not about to do it) to 5 (I've been actively doing it/already done it)*.

3.2.2. Portrait Value Questionnaire Revised (PVQR)

The new version of the Russian version of the Schwartz value instrument included 57 value items, representing each type of value (Schwartz et al. 2012). In accordance with the key, an average rating is calculated for the 19 values, corresponding to the 19 types of motivation (or individual-level values) delineated by Schwartz.

Initial results suggest that the instrument functions well to measure the 19 values, and this refers both to convergent and divergent validity (Schwartz et al. 2012). However, in this study we used only the values that are on two axes - conservation and openness to change - because they are the most relevant predictors for starting a new business and for innovation in general (see Dollinger et al. 2007; Lebedeva and Schmidt 2012).

a) ***Conservation***

1) Two Conformity values:

- Conformity to rules (example item: 'It is important to him to obey all the laws').
- Conformity to interpersonal expectations (example item: 'It is important to him to avoid upsetting other people).

2) Two Security values:

- Personal (example item: 'It is important to him never to do anything dangerous').
- Societal (example item: 'It is important to him that his country protect itself against all threats').

3) Humility (example item: 'It is important to him never to be boastful or self-important').

4) Face (example item: 'It is important to him never to be humiliated').

5) Tradition (example item: It is important to him to maintain traditional values and ways of thinking).

b) Openness to change

1) Two self-direction values:

- Autonomy of thought (example item: 'It is important for him to expand his knowledge').
- Autonomy of action (example item: 'It is important for him to plan his activities independently').

2) Hedonism (example item: 'It is important for him to take advantage of every opportunity to have fun').

3) Stimulation (example item: 'It is important for him to have all sorts of new experiences').

3.2.3. Descriptive Statistics for the Constructs of the Theory of Planned Behavior, Implementation Intention and the Value Scales. In this section we will report the mean differences, standard deviations, and the range of the items to measure the constructs of TPB and the value scales.

Table 5 lists the range, the means, and the standard deviations of the TPB items.

Table 5. Descriptive statistics (mean, range, standard deviation) of the TPB items (only available for subsample n= 269)

Items	M	SD. Dev.	Range
INTENTION: d 3.2. How likely is it that you will start a business within the next 2 years? *(Very likely -3-2-1 0 1 2 3 Very unlikely)*	.94	1.54	7
INTENTION: d 3.3. I expect to start a new business within the next 2 years. *(Strongly disagree -3-2-1 0 1 2 3 Strongly agree)*	1.29	1.58	7
IMPLEMENTATION: d 4.1. Have you thought about an idea that could serve as a basis for starting your own company? *(5-point scale) ranging from 1 (not at all) to 5 (very much)*	3.26	1.21	5
IMPLEMENTATION: d 4.2.a Are you currently developing a product or service? *(5-point scale)*	2.80	1.33	5
IMPLEMENTATION: d 4.2.d Are you currently saving money for your intention to start a business? *(5-point scale)*	3.38	1.13	5
ATTITUDE: d 5.1. The idea of starting a business is *(Good -3-2-1 0 1 2 3 Bad for me).*	2.04	1.12	7
ATTITUDE: d. 5.3. The idea of starting a business is *(Appropriate -3 -2 -3 0 1 2 3 Inappropriate for me).*	2.00	1.14	7
NORM: d. 6.1. Most people who are important to me think I should start my own business within the next 2 years *(Strongly disagree -3-2-1 0 1 2 3 Strongly agree).*	1.39	1.45	7
NORM: d. 6.2. Many people I know would like to start their own business in the next 2 years. *(Strongly disagree -3-2-1 0 1 2 3 Strongly agree)*	1.09	1.51	7

PBC:D 7.1. For me to start a business within the next 2 years is *(Difficult -3-2-1-0 1 2 3 easy).*	.24	1.66	7
PBC:d7.2 (rev) To start a business within the next two years is beyond my control. *(Strongly disagree -3-2-1 0 1 2 3 Strongly agree).*	1.04	1.83	7

From the table one can see that the subsample of those intending to start a new business is not homogenous, as the standard deviations for all variables are considerable. In addition, it is obvious that the attitude is the most positive predictor, whereas norms, PBC, and intentions all have lower values.

In Table 6 the range, the means, and the standard deviations of the value scales are reported. They are computed as means from the respective items of the different scales.

T**able 6. Descriptive statistics for the value scales (6-point scales) for the subsample and the total sample**

Value Scales	M (*n*=269/*n*=1,789)	SD. (*n*=269/*n*=1,789)	Range (*n*=269/*n*=1,789)	t-value
Autonomy of thought	4.34 / 4.22	0.57 / 0.54	3.85 / 5.02	3.39***
Autonomy of action	4.43 / 4.21	0.57 / 0.62	3.68 / 5.79	5.53***
Stimulation	3.88 / 3.52	0.76 / 0.82	4.77 / 6.80	7.26***
Hedonism	4.05 / 3.75	0.76 / 0.90	4.81 / 6.61	5.75***
Face	4.50 / 4.45	0.67 / 0.58	5.73 / 4.35	1.09
Security (personal)	4.26 / 4.41	0.60 / 0.58	3.69 / 5.94	-4.08***
Security (societal)	4.36 / 4.41	0.65 / 0.70	4.25 / 6.39	-1.15
Tradition	3.92 / 4.10	0.71 / 0.71	4.65 / 5.72	-4.39***
Conformity (rules)	3.57 / 3.90	0.90 / 0.80	5.77 / 6.71	-5.81***
Conformity (interpersonal)	3.55 / 3.91	0.84 / 0.74	4.60 / 5.92	-6.79***
Humility	3.56 / 3.82	0.78 / 0.72	5.44 / 6.58	-5.28***

***** p < 0.001**

It is obvious from Table 6 that all subdimensions of openness to change, that is, autonomy of thought, autonomy of action, stimulation, and hedonism are significantly higher in the group who intend to start a new company within the next two years compared with those people who do not intend to start a new company. In contrast to this, nearly all subdimensions of conservation, that is, personal security, tradition, conformity to rules, interpersonal conformity, and humility are significantly lower in the group of participants who intend to start a new business. The exceptions are face and security-societal, which are not significant.

4. Empirical Results

In this section we first report the results of the simultaneous confirmatory factor analysis of the constructs of TPB to test their convergent and discriminant validity (Model 1). Then we report the results of three structural equation models. In Model 2, we present the results for the application of TPB to explain the intention to start a new business in Russia supplemented by the construct implementation intention. This model is tested only in the subsample of 269 participants who indicated the intention to start a new business in the near future. In Model 3, we expand this model and include values and relevant demographic variables such as age, gender, and self-employment of father and mother. Finally, we describe Model 4, which is based on the total sample. The dependent variable is again the intention to start a new business and the predictors are only values and the demographic variables just mentioned, as in the total sample (n=1789) it was not possible to measure the TPB items. The sequence of models is summarized in table 7. The acronym MIMIC stands for multiple indicators multiple causes (Jöreskog and Goldberger 1975; Kline 2011, pp. 322-325). This type of SEM model is called a MIMIC model because the model contains both formative and reflective indicators in addition to the latent variables themselves.

Table 7: Sequence of model testing

	Type of Model	Estimator	Sample	Constructs
Model 1	Simultaneous Confirmatory Factor Analysis	ML	*n* = 269	TPBConstructs and Implementation Intention
Model 2	Structural Equation Model	ML	*n* = 269	TPBConstructs and Implementation Intention
Model 3	MIMIC model	ML	*n* = 269	TPBConstructs and Implementation Intention, Values, and Demographic Variables
Model 4	MIMIC model	ML	*n* = 2,058	Intention, Values, Demographic Variables

All models were tested using the program AMOS Version 21.

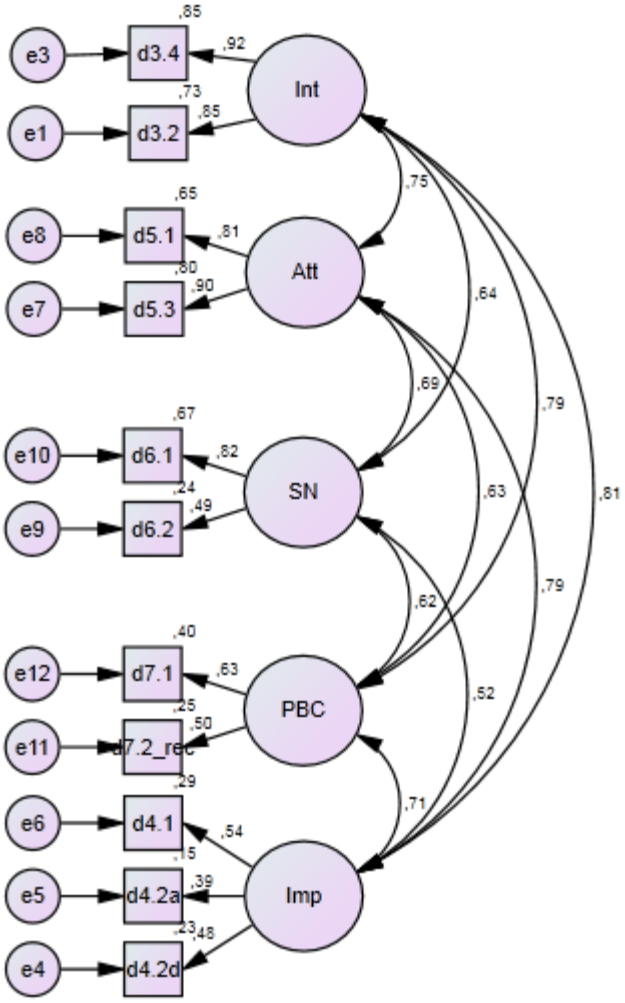
4.1. Simultaneous Confirmatory Factor Analyses: Model 1.

To establish the convergent and divergent validity of all the constructs of TPB (Aizen 1991), attitudes toward the behaviour, social norms, PBC, and intention as well as the additionally introduced concept of implementation intention (Gollwitzer 1999), we tested our measurement model simultaneously for all measures (Brown 2005). For this purpose we conducted a simultaneous confirmatory factor analysis using maximum likelihood estimation for estimating all parameters using the computer program AMOS version 21 (Arbuckle 2012). We deleted one indicator of intention, because of significant error correlations with some indicators of attitude. The fit of the model was good according to the recommended criteria for goodness of fit (Brown 2005; Hu and Bentler 1999): Chi square =

121.001; df = 44; Chi square/df=2.75 ; CFI = 0.935; RMSEA=0.08; CAIC default model considerably lower than the CAIC of the saturated model (Byrne 2010, p. 82).

Figure 2 illustrates the measurement model for the TPB constructs with the standardized coefficients.

Figure 2: Model 1 - Simultaneous confirmatory factor analysis results for the TPB constructs and implementation intention.



‘Int’ – Intention

‘Att’ – Attitudes toward the behavior

‘SN’ – Subjective norms

‘PBC’ – Perceived behavioral control

‘Imp’ – Implementation intention

All factor loadings are significant and higher than 0.4. The standardised loadings of the TPB constructs are much higher than 0.4, whereas the lower loadings of the implementation items may reflect their greater specificity because they refer to different concrete actions taken and not to intention in general. As one can see from the path diagram, all items load only on the factor (construct) they were to predicted to and on no other construct. Therefore, convergent validity was established. Furthermore, no construct had to be combined with another one because of extremely high correlations between them. As predicted from the theory, all correlations between the factors intention, implementation

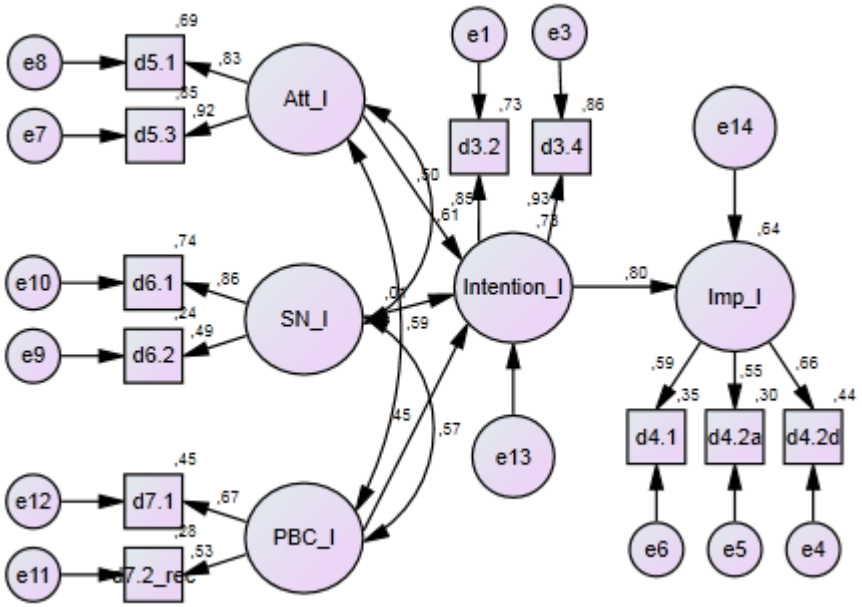
intention, attitudes toward the behaviour, and PBC are positive. The most critical case is the correlation between intention and implementation intention, which is high. However, even in this case, the model containing both factors was better confirmed by the data than the model postulating only one factor for all intention and implementation items. To check for method effects (Podsakoff 2003), we compared a confirmatory model with only one general factor with a model which specified all the five substantive factors just discussed and a model with the five substantive factors plus a method factor. For the last model we had to constrain the loadings of the method factor to be equal, because otherwise we could not reach a proper solution (see Brown 2005). All global fit measures did not indicate a significantly better fit for the model with method effects (AIC: 129.49 vs. 132.69; CFI: 0.968 vs. 0.965 ; RMSEA 0.061 vs. 0.064; Chi square/df: 1.92 vs. 2.03). The first number represents the result for the model without method effects and the second number the model with method effects. As a consequence, we did not take into account a method factor in the subsequent structural equation models.

4.2. Structural Equation Models

4.2.1. Model 2: Determinants of Intention and Implementation Intention: Which role play attitudes, norms or PBC?

We have specified Model 2 in Figure 3 based on TPB and its direct measures (Aizen 1991; Fishbein and Aizen 2010), supplemented by the concept of implementation intention (Gollwitzer 1999). Implementation intention is specified in Model 2 as a dependent construct which is only directly influenced by the intention to start a new business. The reasoning for this is that intention is a more general tendency which influences the more concrete implementation intention (Gollwitzer 1999; Gollwitzer and Sheeran 2006). The intention itself is determined by the three constructs: Attitudes toward the behaviour, social norms, and PBC as postulated by the theory and confirmed in all meta-analyses (Fishbein and Aizen 2010). We postulate that there is total mediation of the effects of attitudes, norms, and PBC on implementation intention via intention as argued above. The standardised coefficients both for the structural and the measurement model can be found in Figure 3.

Figure 3: Model 2 - Determinants of Intention and Implementation Intention



'Att_I' – Attitudes toward the behavior

'SN_I' – Subjective norms

'PBC_I' – Perceived behavioral control

'Intention_I' – Intention

'Imp_I' – Implementation intention

For the estimation we used the maximum likelihood estimation procedure available in the program AMOS version 21.

The model of full mediation as specified here was not significantly worse than a model with direct influences of attitude, norms, and PBC on implementation intention. The measures of global fit are satisfactory (CFI = 0.961, RMSEA = 0.06, Chi square/df = 2.031, AIC default model = 133.61 vs. AIC saturated model = 132). As one can see in Figure 3, intention has a very strong effect (0.837) on implementation intention and as demonstrated here and in the confirmatory factor analysis described above, divergent validity has been established, empirically corroborating the assumption of two independent constructs. As has been shown in meta-analyses (Fishbein and Aizen 2010), the predictors attitudes toward the behaviour, norms, and PBC are, also in our model, all positively and significantly correlated. However, one can see that attitude is more strongly correlated with norms and PBC than norms with PBC. The effects of attitude and PBC on intention are as expected: strong, positive, and significant (0.425, 0.512). However, in our model social norms have no significant effect. One possible cause for this could be multicollinearity. However, it was ruled out as an explanation because none of the correlated estimates of parameters had a value over 0.90 because this could be used as an indicator of multicollinearity in SEM models. Furthermore, it is possible that the variance of social norms is low because our sample consists of individuals who have at least some intention. But this not the case as one can see in Table 5. Finally, Fishbein and Aizen (2010, pp. 217-218) have argued that the

coefficients themselves might vary considerably in different samples due to contextual and sample characteristics.

The explained variance (R2) of intention is 0.748 and of implementation intention 0.701. These are both high numbers which show the precision and fruitfulness of the postulated model.

As outlined above, we have tested our full mediation model against a partial mediation model, and the full mediation model was not significantly worse than the partial mediation model. Given the fact that the fully mediated model was confirmed, we can now refer to the direct, indirect, and total effects of attitudes, social norms, and PBC, (Bollen 1989; Muthen 2012; Pearl 2012). As there are no direct effects in the fully mediated model from attitude toward the behaviour, norms, and PBC, we only have indirect effects and total effects. We now present, in Table 8, the direct, indirect, and total standardised effects of all predictors on implementation intention.

Table 8 Standardized direct, indirect, and total causal effects of all predictors of implementation intention

	Direct	Indirect	Total
Attitude → Implementation Intention	0	0.356	0.356
Norms → Implementation Intention	0	n.s.	n.s.
PBC → Implementation Intention	0	0.429	0.429
Intention → Implementation Intention	0.837	0	0.837

The findings reported in Table 8 show that although attitudes and norms do not have a direct effect on implementation intention as it is a fully mediated model, their indirect and total effect is substantive.

4.2.2. Model 3: A MIMIC Model for the TPB, Implementation Intention, Values, Gender, Professional status of parents, Age and Education

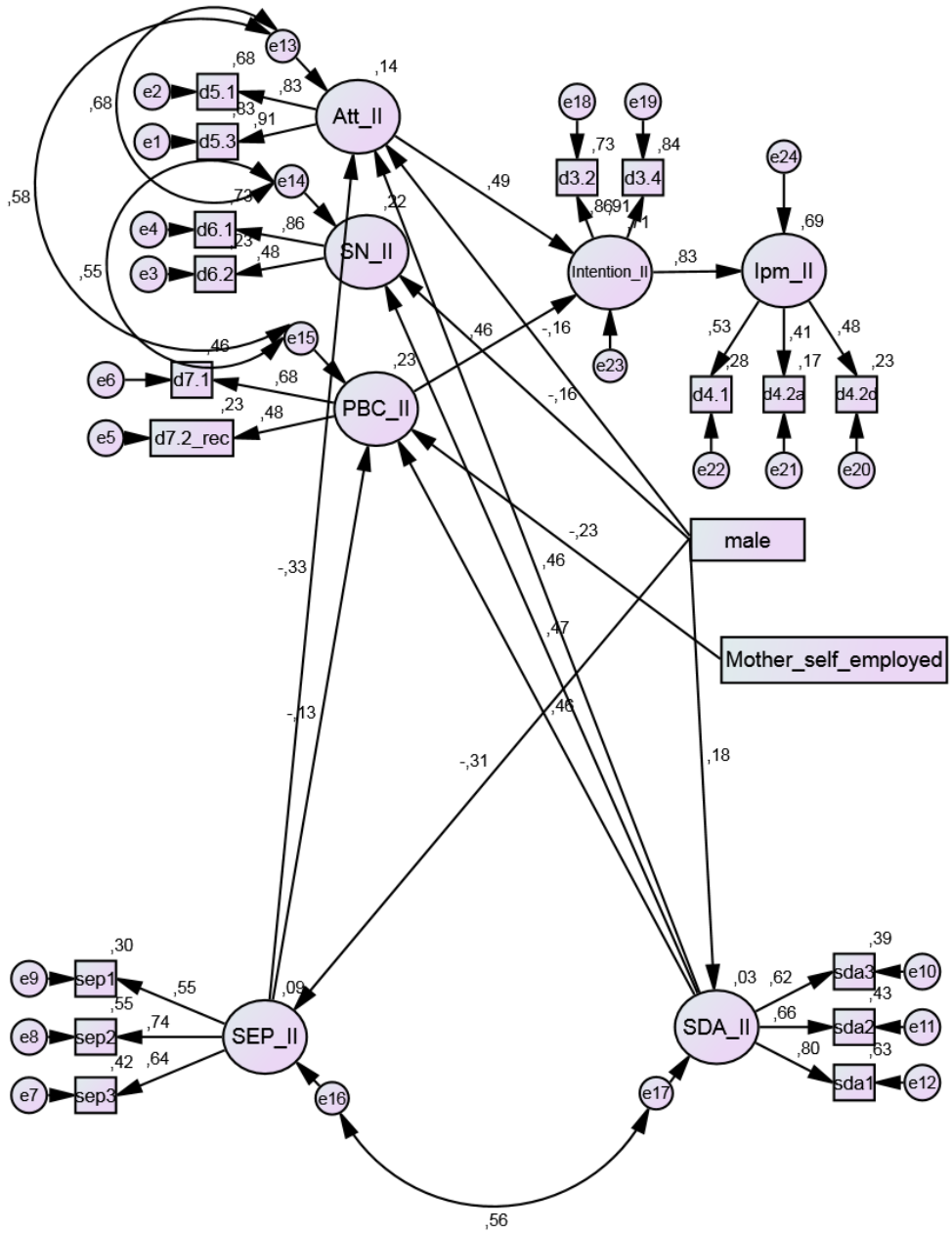
In Model 3 we first tested whether values have a significant effect on attitudes, norms, and PBC and whether the impact of values on intention and implementation intention is fully mediated by attitudes, norms, and PBC. Secondly, we examined how the influence of demographic variables on intention operates. As postulated by the TPB(Fishbein and Aizen, 2010, pp. 225-235), we assume full mediation which means that the demographic variables influence intention and implementation intention only via attitude, norms, and PBC and, therefore, not directly.

Furthermore, we have postulated that the demographic variables age, education, and gender should influence values (see Meuleman et al. 2012). In addition, we postulated that self-employment of father

and mother should also have an effect on values of self-determination and subjective security. The demographic variables are the formative observed variables, which influence the latent constructs represented by values and the constructs of the TPB including implementation intention. In contrast to the formative indicators, the items to measure values and the TPB constructs are seen as reflective indicators determined by their respective constructs (Brown 2005, Bollen & Davis 2009).

Model 3 in Figure 4 represents only those paths that were at least significant at the 5% level. In the sense of the seminal paper by Jöreskog (1993), who differentiates strictly between confirmatory, alternative, and model generating models, our final model belongs to the third category. The fit of Model 3 seems to be sufficient: chi-square = 206.913 with 137 degrees of freedom, chi square / df = 1.510, CFI = 0.959, RMSEA = 0.044, CAIC for our model (default model) = 556.433 compared to CAIC for the saturated model = 1252.995.

Figure 4: Model 3 - Standardized Coefficients for the Integrated Model of Demographic Variables, Values, Theory of Planned Behaviour Constructs, and Implementation Intention



'Att_II' – Attitude toward the behavior

'SN_II' – Subjective norms

'PBC_II' – Perceived behavioral control

'SEP_II' – Security: personal (value)

'SDA_II' – Self-Direction (value)

‘Intention_II’ – Intention

‘Imp_II’ – Implementation intention

First, the path diagram reveals that the factor loadings of all constructs are sufficiently high to establish convergent validity. In Figure 4, one can see that the relation between intention and implementation intention did not change (0.80) compared with the coefficient in Model 2. As there is no other direct effect on implementation intention, the explained variance of implementation intention also did not change (0.64). The same is true for the explained variance of intention (0.74). The effects of attitude toward the behaviour (0.49 with a difference of 0.01 compared with the same effect in the former model) and PBC (0.45) were also nearly invariant. The effect of norms on intention is again not significant in this model. We have allowed for error correlations between attitudes, norms, and PBC (0.643, 0.712 and 0.601), as their predictors cannot explain all the common variance between them, and according to the TPB they should be positively correlated.

Let us now refer to the relations between values, attitudes, norms, PBC, intention, and implementation intention. As predicted, there is no direct relation between the two values and intention and implementation intention, which confirms the fully mediated model specification outlined in Fishbein and Aizen (2010). Self-Determination activities seem to be the only significant value of the higher-order factor openness to change for the prediction of attitudes (0.48), norms (0.44), and PBC (0.45). The positive and significant effects corroborate the theoretical hypotheses for this dimension of openness to change. The only subdimension of conservation, which has an impact seems to be personal security, which has, however, only a negative effect on attitude. This means the more people value personal security as a value, the more negative their attitude toward starting their own business is (-0.352). The negative sign of the coefficient also confirms the theoretically postulated hypothesis.

Concerning the influence of the demographic variables on attitudes, norms, and PBC, Figure 4 shows that men have a more positive attitude (-0.182) and perceive more positive norms (-0.158). Interestingly, only self-employment status of the mother influences PBC, whereas the self-employment status of fathers has no impact.

Finally, we can see in the path diagram that women value personal security (SEP) more than men (-0.306), whereas men exhibit more self-determination activities (0.183). As predicted from the value theory of Schwartz (2012), there is a certain pattern of correlations between the value components. In our case the correlation is 0.555.

The explained variance of attitude is 0.158, of norms 0.191, and of PBC 0.210, which shows that important variables are still missing in our model specification. The explained variances of self-Determination activities and personal security are considerably lower (0.033 and 0.094).

Now we refer to the total causal effects of demographic variables, values, and attitudes and PBC on intention and implementation intention.

Table 9: Standardized total effects Model 3

	Mother_Self-employed	male	SDA_	SEP_	PBC_	Att_	Intention_	Imp_	SN_
SDA	0.000	0.183	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SEP	0.000	-0.306	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PBC	-0.212	0.132	0.455	-0.160	0.000	0.000	0.000	0.000	0.000
Att	0.000	0.013	0.477	-0.352	0.000	0.000	0.000	0.000	0.000
Intention	-0.096	0.066	0.439	-0.244	0.455	0.487	0.000	0.000	0.000
Imp	-0.077	0.053	0.352	-0.196	0.364	0.391	0.801	0.000	0.000
SN	0.000	-0.078	0.437	0.000	0.000	0.000	0.000	0.000	0.000

In Table 9 one can see that the total causal effects (impact multipliers) of gender and mother self-employed are not zero but also not very strong. However, the total causal effects of values on intention and implementation intention are remarkable (0.439, 0.352) even though the direct effects are zero.

4.2.3. Model 4: Demographic Attributes and Values as predictors in the total sample

If we leave out the constructs of TPB which mediates the effects of values and demographic variables we still can derive from Hypotheses 5-10 in the theory section that there should be an Effect of Openness of Change values and conservation values on the tendency to start a new business (Pearl 2012) . This is due to the substantial total effects (reduced form coefficient) of these values on intention and implementation intention as shown in table 9. In this model we used in addition the variable region (okrug) as predictor, as the sample size was sufficiently high. Region and religion are in our case closely connected. In central Russia the main religious denomination is orthodox, whereas in the Caucasus region islamic religion is dominant. In addition central Russia is the most modernized region of Russia, whereas the Caucasus region is much more traditional. Because of this we postulate both an indirect effect over values on the intention to start a new business as a direct effect as the values will not fully mediate all the effects of region. The same partial mediation process we postulate for age, education and professional status of father and mother. Based on the results of the meta-analysis of Haus et al. (in press) we cannot make a clear proposition concerning gender. To sum up we can formulate the following additional hypotheses:

H11: Respondents from the Caucasus region have higher scores on conservation values and lower scores on openness to change values than respondents from the central region.

H12: Respondents from the Caucasus region have a lower intention to start a new business than respondents from the central region.

H13: The older the respondents are, the higher their scores on conservation values and the lower their scores on openness to change.

H14: The older the respondents, the lower their intention to start a new business.

H15: The more educated the respondents, the lower their scores on conservation values and the higher on openness to change values.

H16: The more educated the respondents, the greater their tendency to start a new business.

Table 10 contains the standardized coefficients for Model 4

Table 10: Model 4 : Demographic Attributes and Values as predictors of the intention to start a new business (*n*=2061).

Factor Loadings	Estimate
A1.15 ← Conformity Rules	0.706
A1.31 ← Conformity Rules	0.780
A1.42 ← Conformity Rules	0.802
A1.16 ← Self- Determination Action	0.696
A1.30 ← Self- Determination Action	0.621
A1.56 ← Self- Determination Action	0.633
A1.13 ← Security Personal	0.639
A1.26 ← Security Personal	0.626
A1.35 ← Security Societal	0.779
A1.50 ← Security Societal	0.781
A1.18 ← Tradition	0.668
A1.33 ← Tradition	0.689
A1.40 ← Tradition	0.817

Structural Relationships	
Conformity Rules ← Age	-0.079
Conformity Rules ← Region	-0.203
Self- Determination Action ← Education	-0.088
Self- Determination Action ← Region	-0.170
Security Personal ← Region	-0.108
Security Societal← Age	-0.067
Security Societal ← Region	-0.051
Intention ← Security Societal	0.200
Intention ← Security Personal	-0.505
Intention ← Age	0.150
Intention ← Region	0.094
Intention ← Conformity Rules	-0.109
Intention ← Tradition	0.170
Intention ← Self- Determination Action	0.324
Tradition ← Age	-0.097
Tradition ← Father is Self-employed	-0.029
Tradition ← Region	-0.235

The fit of the model was good. Chi^2 = 461.745 with 108 degrees of freedom, Chi^2/df = 4.275; CFI = 0.964 and RMSEA = 0.040. CAIC = 1005.494 compared with a value of 1475.892 for the saturated model.

All coefficients were significant at least at the 5 % level. The factor loadings are all at least 0.5 and can be judged as satisfactory. However the effects of the professional status of the father on tradition and conformity to rules and on intention to start a business was only significant at the 10% level. Hypothesis 11 is partially confirmed, as the Caucasus region has a positive effect on the conservation values tradition, conformity to rules, personal security and societal security, whereas the effect on self-determination is negative, as predicted. However the region had no effect on the new subdimension

interpersonal conformity, which supports the idea that the two conformity dimensions should be separated. The partial mediation hypothesis is also confirmed for the effect of region as those living in the Caucasus have a lower intention to start a new business holding constant all other variables including the values. For the effects of age on values and intention to start a new business we observe a similar situation. Age has a positive effect on the conservation values Tradition, Conformity to rules and societal Security. But it has no effect on interpersonal conformity and personal security, contrary to Hypothesis 13. This may be due to stable personality characteristics, which determine independent of age interpersonal conformity and personal security. There is also no effect on any Openness value, contrary to Hypothesis 13. However there is, as predicted in H14, a direct and negative effect on the intention to start a new business. Contrary to Hypothesis 15 education has no effect on conservation values and only on one openness value that is Self Directed Action. There is also no direct effect of education on the intention to start a new business and Self-Employment of Parents has no direct effects on intention but only a weak negative effect on Tradition as a value.

When we look at the effects of values on the intention to start a business the most striking result is the different sign of the two security values. Whereas a high score on personal security reduces the tendency to start a new business as predicted, the scores on societal security are the other way around. The higher the scores are on societal security the higher the intention to start a new business.

Furthermore it is remarkable that the negative effect of personal security on intention is the strongest predictor of all the explaining variables involved (-0.505). The different signs of the two security subdimensions demonstrate impressively that the differentiation into additional Dimensions makes sense. As predicted higher scores on conformity to rules also have a negative effect on the intention to start a new business. Finally it is remarkable that self determination as the only subdimension of openness to change has a substantive effect on intention (0.324). As this factor is the one which is conceptually nearest to the intention to start as actions are addressed and not only thoughts this seems to be convincing.

5. Summary and Discussion

The overall aim of our paper was to test an integrated model of determinants of entrepreneurial intention encompassing the theory of planned behaviour, implementation intention, basic human values, and selected demographic attributes in the Russian population. This section discusses our findings in light of the existing literature.

Our findings are consistent with some empirical results using TPB as a framework to explain entrepreneurial behaviour. In our study only attitudes toward the behaviour and PBC had a statistically

significant effect. Autio et al. (2001) found that social norms had only a weak effect, Linan and Chen (2009) reported that norms had only an indirect effect via attitudes and PBC, and Krueger et al. (2000) found no significant effect at all. In contrast to this, Kolvereid (1996), Tkachev and Kolvereid (1999), and Zapkau et al. (2012) found that all three determinants of intention had a significant effect, as the theory predicts. Concerning such inconsistent findings, Fishbein and Aizen (2010) argue that depending on situational and contextual factors these coefficients can vary considerably and can sometimes be non-significant. Linan and Chen (2009) have taken up this point and argued that social norms may have a stronger influence in collectivistic cultures and a weaker one in individualistic cultures. The breakdown of the Soviet Union certainly led to a longer period of anomia (i.e., normlessness), and this could explain the finding that norms had no significant effect in our study. However, in the Caucasus region, the culture is much more collectivistic than in the central Russian area around Moscow. However, our sample size in the restricted sample was very small, so we could not use a multigroup MIMIC Model to test this assumption. However in the large sample the Caucasus region had significant effects on values and intention. Additionally, we could show that intention and implementation intention could be established as separate constructs although they are closely related and that all effects from attitude and PBC were fully mediated by intention. Concerning the values, we could confirm the assumption of Fishbein and Aizen (2010) that values are important but more distal predictors. Their effect on intention and implementation intention was, as predicted, fully mediated by attitudes, norms, and PBC. Only in Model 4, where we did not control for attitudes, norms, and PBC, did they have a direct impact on intention. In the descriptive analysis it was found that all subdimensions of openness were higher for those individuals who intended to start a new business, whereas for all those individuals who had no intention to start a business, all subdimensions of conservation were higher. It was remarkable that, both in Model 3 and in Model 4, not all dimensions of openness and conservation had an impact on attitudes, norms, and PBC or on intention directly as in Model 4. This illustrates that Schwartz's differentiation of his value concept (Schwartz et al. 2012) makes sense, and multivariate models are needed to partialize the effects of the variables studied. Regarding the subdimensions of openness, we could demonstrate that self-determination of actions seems to be the only significant and positive determinant, both in the restricted sample (Model 3) and the large sample (Model 4). Of the subdimensions of conservation, only personal security is a direct or indirect significant negative predictor in both samples. Of the dimensions of conservation in the large sample, only the factors personal and societal security, tradition as maintenance, and conformity to rules have a significant effect on the intention to start a new business. Whereas the effect of tradition and conformity to rules is as expected, that is, those with higher scores do not intend to start a new

business, the effect of societal security as a value is opposite. The individuals who value security in the society highly also tend to start a new business. The reason might be that those who intend to start a company want to have order and stability in society as an external, necessary condition for starting a new company. Quickly changing conditions and anomic situations do not allow making any firm predictions how a business will develop.

As in the study of Zapkau et al. (2012), we did not find any significant connection between prior role model exposure and the intention to start a business. Neither self-employment of fathers nor of mothers had an effect. There was one exception; however, the self-employment of mothers had a negative effect on PBC. One explanation for this might be that respondents with self-employed mothers get a more realistic view on the problems of starting a new business.

However, this explanation would have to be tested in new studies. The explanation provided by Zapkau et al. (2012) for the insignificant findings was twofold. Firstly, they argued that samples of business owners were often used instead of representative samples. Secondly, prior research has mostly neglected to take into account how positive or negative the role model exposure was actually perceived by the respondents. Concerning the effect of gender and its mediation by attitude, norms, and PBC, in a meta-analysis Haus et al. (2013) demonstrated that the direct effect of gender is rather low. This corresponds to our results. When we controlled for attitudes, norms, and PBC, gender had no effect at all. But even the indirect effect was not very substantial. Age had a positive direct effect in Model 4. However, for the interpretation one has to take into account that our sample composition stopped at 60 years of age, and there could be a nonlinear relationship. Finally, we could show that the context in the form of regions had a significant effect. In the central Russian region with a lot of universities and less traditional life and norms compared with the Caucasus region, we find more intention to start a new business.

One major limitation of intention-based research is that the strength of the relation between intention and behaviour and its stability can be only observed in longitudinal studies (Davidsson and Honig 2003).

However, numerous studies and meta-analyses have shown the close connection between intention and behaviour (Fishbein and Aizen 2010). Since our study is designed as a longitudinal study, we have the renewed opportunity at the end of the year to test the predictive validity of those participants who intend to start a new business by the measurement of their behaviour.

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Appendix 1. *Entrepreneurial behaviour evaluation*

Now I am going to ask you some questions about starting your own business instead of being employed by state or private organizations.

D1. Firstly, do you have your own business?

1. Yes, I have my own business now → *GO TO QUESTION D2b*
2. Currently no, but I had my own business in the past → *ASK QUESTION D2a*
3. No, I have never had my own business → *ASK QUESTION D2a*

(9) Refused to answer */DO NOT READ/* → *ASK QUESTION D2a*

D2a. Are you thinking about starting your own business within the next two years?

1. Yes → *ASK QUESTION D3.1*
2. Maybe / Not sure → *ASK QUESTION D3.1*
3. No → *GO TO QUESTION D8*

(9) Refused to answer */DO NOT READ/* → *ASK QUESTION D3.1*

D2b. Are you thinking about starting a <u>new</u> business within the next two years?

1. Yes → *ASK QUESTION D3.1*
2. Maybe / Not sure → *ASK QUESTION D3.1*
3. No → *GO TO QUESTION D8*

(9) Refused to answer */DO NOT READ/* → *ASK QUESTION D3.1*

APPENDIX 1: Question Wording of Items

ASK THOSE WHO ARE THINKING ABOUT STARTING A NEW BUSINESS WITHIN THE NEXT TWO YEARS

In order to answer the following questions, please imagine first what it would be like for you to start a business within the next two years.

D3.1. What kind of business would you like to start within the next two years? */RECORD VERBATIM/*

!_____!

(97) Refused to answer

(99) Have not decided yet

D3.2. How likely is it that you would start a business within the next two years?

-3	-2	-1	0	+1	+2	+3
Very unlikely						Very likely

(99) Don't know

D3.3. I would like to start a business within the next two years.

-3	-2	-1	0	+1	+2	+3
Strongly disagree						Strongly agree

(99) Don't know

D3.4. I expect to start a new business within the next two years.

-3	-2	-1	0	+1	+2	+3
Strongly disagree						Strongly agree

(99) Don't know

Please assess the stage in which your intention to start a business is.

D4.1. Have you thought about an idea that could serve as a basis for starting your own company? */READ OUT ITEMS. ONLY ONE ANSWER IS POSSIBLE/*

1. No, I don't have any idea yet → *> GO TO QUESTION D5.1*
2. I don't have a certain idea, only general thoughts → *GO TO QUESTION D5.1*
3. I have some ideas, but they are not clear yet → *ASK QUESTIONS D4.2*
4. I have an idea, but it still requires elaboration → *ASK QUESTIONS D4.2*
5. Yes, I have a certain well thought-out idea → *ASK QUESTIONS D4.2*

(9) Don't know */DO NOT READ/* → *GO TO QUESTION D5.1*

ASK THOSE WHO ALREADY HAVE SOME IDEAS FOR STARTING A NEW BUSINESS (codes 3-5 in question D4.1)

D4.2. Now I will read you a list of items, and you please tell me at what stage of that part of starting a new business you are right now? Are you currently in … */READ OUT ITEMS AND MARK ONE ANSWER ON EACH/*

	I'm not about to do it	I'm going to do it sometime in the future	I'm going to do it in the near future	I just started to do it	I've been actively doing it/ already done it	Unsure/ refuse
a) Developing a product/service	1	2	3	4	5	(9)
b) Looking for a location or equipment for your business idea	1	2	3	4	5	(9)
c) Working on a business plan for your business idea	1	2	3	4	5	(9)
d) Saving money for your intention to start a business	1	2	3	4	5	(9)

Now please tell me what you think about the intention to start own business.

D5.1. The idea of starting a business within the next two years is for me...

-3	-2	-1	0	+1	+2	+3
Very bad						Very good

(99) Don't know

D5.2. The idea of starting a business within the next two years is for me...

-3	-2	-1	0	+1	+2	+3
Very foolish						Very smart

(99) Don't know

D5.3. The idea of starting a business within the next two years is for me...

-3	-2	-1	0	+1	+2	+3
Very inappropriate						Very appropriate

(99) Don't know

The next two questions are about people around you.

D6.1. Most people who are important to me think I should start my own business within the next two years.

-3	-2	-1	0	+1	+2	+3
Strongly disagree						Strongly agree

(99) Don't know

D6.2. Many people I know would like to start their own business in the next two years.

-3	-2	-1	0	+1	+2	+3
Strongly disagree						Strongly agree

(99) Don't know

D7.1 For me to start a business within the next two years is...

-3	-2	-1	0	+1	+2	+3
Very difficult						Very easy

(99) Don't know

D7.2. To start a business within the next two years is beyond my control.

-3	-2	-1	0	+1	+2	+3
Strongly disagree						Strongly agree

(99) Don't know

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