The impact of an entrepreneur's age on entrepreneurial passion; an explanatory study

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ABSTRACT,

In the context of entrepreneurship, entrepreneurial passion has an important role due to its relationships with several entrepreneurial outcomes. This is a research on the relationship between 'age' and 'entrepreneurial passion', where passion is divided into the three entrepreneurial activities 'inventing', 'founding' and 'developing'. It was conducted among entrepreneurs who have a higher education background. The relationship between the two variables was tested with a Mann-Whitney test and a simple linear regression analysis. For each of the entrepreneurial activities, a weak positive linear relationship was identified. Therefore, it has been concluded that 'age' has a significant influence on 'entrepreneurial passion'. This research contributes to the existing literature on entrepreneurial passion by examining the effect of 'age' as a predictor variable and not using it just as a control variable. It is shown that older entrepreneurs experience more passion for the three entrepreneurial activities 'inventing', 'founding' and developing'.

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1. INTRODUCTION

This research is positioned in the research field of entrepreneurial passion. The importance of research on entrepreneurial passion can be explained by the links between entrepreneurial passion and several entrepreneurial outcomes (e.g. venture growth, venture performance, access to funding, entrepreneurial persistence), which have been identified in multiple prior researches (Newman, Obschonka, Moeller, & Chandan, 2019).

Narrowing down the scope, the research will focus on the antecedents of entrepreneurial passion, which the existing literature is not putting too much emphasis on. This is expressed through the small number of researches on this topic (Newman, Obschonka, Moeller, & Chandan, 2019). Moreover, this research studies antecedents of entrepreneurial passion in a different way compared to for example Cardon et al. (2013), who used antecedents as part of a regression analysis but did not investigate differences in the influence of them on three different domains of entrepreneurship (inventing, founding, developing) (Cardon, Gregoire, Steve, & Patel, 2013). Last but not least, Newman et al. (2019) highlighted that relationships between entrepreneurial passion and its antecedents are not clear.

Entrepreneurial passion can be defined as: "consciously accessible intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur" (Cardon, Wincent, Singh, & Drnovsek, 2009, p. 517) The entrepreneurial activities are as mentioned above: inventing, founding and developing.

A research on entrepreneurial passion and personality found out that out of a set of control variables 'age' was the only variable that was relevant to have an effect on passion (Obschonka, Moeller, & Goethner, 2019). Previous researches have already focused on 'age' as a predictor variable for entrepreneurship but, to our understanding, not specifically on entrepreneurial passion. It has been stated that: "following the increase in life expectancy more new ventures are expected to be established by older adults" (Gimmon, Yitshaki, & Hantman, 2018, p. 269) As it is expected that a larger number of ventures will be founded by older entrepreneurs in the future, it is important to investigate the differences in passion experienced by young and old entrepreneurs since entrepreneurial passion influences the success of a business (Newman, Obschonka, Moeller, & Chandan, 2019). Not only it is interesting and important to look into this topic, but there is actually a gap in the existing research. Kautonen (2008) stated that: "Older entrepreneurship is still an under-researched area characterised by a scarcity of empirical data" (Kautonen, 2008) By older entrepreneurship, people are meant, who become entrepreneurs at an older age.

Thus, this research aims to provide clear outcomes on the relationship between age and entrepreneurial passion. Since to our understanding no research on the impact of age as a predictor on entrepreneurial passion could be found, this is the variable that will be used in the analysis, to provide new insights in this field of research. It is important to provide new insights in this field of research, so that age impacts can be uncovered and preparations for the change in entrepreneurship, which was explained above, that comes with the demographic change, can be taken. To conclude, this research aims to identify in what way the entrepreneurs' age influences their entrepreneurial passion.

1.1 Research Questions

The question, this research strives to investigate and find an answer to, is represented by the **main research question**: *In what way does the age of entrepreneurs influence their entrepreneurial passion?*

As roughly mentioned in the introduction, to create an overall picture of the effect of age on entrepreneurial passion, three domains of entrepreneurship will be investigated separately. Therefore, the following sub-questions are used to find an answer to the main research question:

In what way does the age of entrepreneurs influence their entrepreneurial passion for 'inventing'?

In what way does the age of entrepreneurs influence their entrepreneurial passion for 'founding'?

In what way does the age of entrepreneurs influence their entrepreneurial passion for 'developing'?

The three domains will be explained more thoroughly under 'Theoretical Framework'.

2. THEORETICAL FRAMEWORK

2.1 Entrepreneurial Passion

2.1.1 Entrepreneurial Activities

The theoretical framework, which is used for this research, is based on the research on entrepreneurial passion by Cardon et al. (2013). Cardon et al. (2013) developed a scale to measure entrepreneurial passion, in which entrepreneurial passion is divided into three domains of entrepreneurship, which are inventing, founding, and developing. To be more specific, these three are different entrepreneurial activities and the scale is designed to measure the entrepreneurial passion the entrepreneurs experience themselves regarding the three activities. (Cardon, Gregoire, Steve, & Patel, 2013)

Passion for inventing is considered to be experienced when being involved in activities as searching for opportunities and market needs, which can be exploited by "inventing new products or services" (Cardon, Gregoire, Steve, & Patel, 2013). An entrepreneur experiences passion for founding in the process of "founding new organizations" (Cardon, Gregoire, Steve, & Patel, 2013). This means an entrepreneur who is very passionate about this domain highly enjoys the creation of a new venture. The third domain, passion for developing, is experienced in an entrepreneur's activities after the founding phase of the venture is completed. These are activities that aim for growing the venture and improving its processes and performance. (Cardon, Gregoire, Steve, & Patel, 2013)

2.1.2 Experienced Passion towards Activities

Next to these three domains, Cardon et al. (2013) incorporate the two dimensions 'intense positive feelings' and 'identity centrality'. "Entrepreneurial passion is for one or more meaningful roles that are salient to the self-identity of the entrepreneur and correspond to intense positive feelings consciously experienced by engagement in entrepreneurial activities". (Cardon, Wincent, Singh, & Drnovsek, 2009, p. 525) Hereby Cardon et al. (2009) show that an entrepreneur experiences passion during an activity and that this passion consists of the above-mentioned dimensions 'intense positive feelings' and 'identity centrality'. How 'intense positive feelings' are experienced is part of an entrepreneur's passion towards an activity and therefore, it is part of the framework to find out with what intensity entrepreneurs experience which activities. (Cardon, Gregoire, Steve, & Patel, 2013) The second domain, 'identity centrality' measures how strongly entrepreneurs identify themselves with a certain activity or to what extent they perceive an activity as an important part of who they are. (Cardon, Gregoire, Steve, & Patel, 2013)

2.1.3 Connection of the Activities and the experienced Passion for them

The two dimensions 'intense positive feelings' and 'identity centrality' are measured for each of the three domains of entrepreneurship. This means the score for 'passion for inventing' will consist of the score for 'intense positive feelings' towards inventing and the score for 'identity centrality' for inventing. The same applies for the scores for 'passion for founding' and 'passion for developing'. (Cardon, Gregoire, Steve, & Patel, 2013)

2.2 Age

In this part, it will be explained how age is seen in the entrepreneurship literature in general and how some existing literature can be used to develop hypotheses for this paper.

Ardagna et al. (2008) showed that the likelihood to engage in entrepreneurial activity rises until a certain age and after this point decreases. Their research distinguished between the reason why someone chose to become an entrepreneur, such as recognizing an opportunity or simply not finding anything else (Ardagna & Lusardi, 2008). The different reasons to become an entrepreneur are not taken into account in this paper, but what is important to mention is that the peaks for the likelihood to engage in entrepreneurial activity were at the age of 32, 29, and 40 for the different groups. Roberts (1991) found for two groups with 20 technical enterprises each, a median founder age of 37 for one group and a median founder age of 39 for the other group. What can be drawn from these studies is, that most people who become entrepreneurs do so when they are not young anymore, but rather middle-aged.

In the entrepreneurship literature, age is not only related to the point when someone chooses to become an entrepreneur, but also some traits are associated with younger or older entrepreneurs. Compared to older entrepreneurs, younger entrepreneurs are seen as "cognitively sharper, less distracted by family or other responsibilities, and more capable of transformative ideas" (Azoulay, Jones, Kim, & Miranda, 2020, p. 66). Because younger entrepreneurs are less bound to a family, they have more time that they can invest in their venture and do not put the existence of others on the line when taking risks. Being cognitively sharper helps to tackle problems better and to keep the focus when working. Furthermore, younger entrepreneurs did not develop definite views or ways to think, so they are more open to new methods and ideas. For older entrepreneurs, it is assumed that they "might access greater human capital, social capital, or financial capital" (Azoulay, Jones, Kim, & Miranda, 2020, p. 66). The years of experience and longer time to develop skills are traits that are not so far developed among younger entrepreneurs, simply because of the lower amount of time they had to gain them. Along with more experience, older entrepreneurs had more time to expand their network and to generate financial assets. With more financial assets an entrepreneur can take higher risks because if something goes wrong, they have enough financial reserves to further run their business.

Zhang and Acs (2018) argue that the studies on entrepreneurial propensity do not come to the same conclusion. The studies presented above present rising propensity until a peak in the mid-age and after that, there is a decrease. They conducted a research on entrepreneurial propensity and took different types of entrepreneurs into account: novice entrepreneurs, non-novice entrepreneurs, opportunity entrepreneurs, necessity entrepreneurs, full-time entrepreneurs, part-time entrepreneurs, incorporated entrepreneurs, unincorporated entrepreneurs. They found out that the propensity differs between the types of entrepreneurs and for the overall entrepreneurial propensity they found a steady increase with an increase in age (Zhang & Acs, 2018).

Since the different types of entrepreneurs are not taken into account in this paper, only the findings on the overall entrepreneurial propensity are used further. Entrepreneurial propensity is defined as "an individual propensity to set up a new business, or to accelerate an enterprise's growth by putting forward or developing a new operating idea or measure, which plays a very important role in starting and running a business." (Chen Y. , 2014, p. 7286) The activities described in this definition correspond with the entrepreneurial activities, which are explained for the entrepreneurial passion variable.

2.3 Hypotheses

As mentioned above, the activities that are related to entrepreneurial propensity, correspond to the entrepreneurial activities from the framework for entrepreneurial passion. Setting up a new business is an activity belonging to the domain of 'founding'. The activity that belongs to 'developing' is accelerating an enterprise's growth. Developing a new idea or measure is part of growing a business but also relates to the domain of 'inventing' because this domain encompasses the activities of finding and inventing new innovations for the business. As Zhang and Acs' (2018) research shows, there is continuously increasing propensity with increasing age. Based on the fact, that the activities for entrepreneurial propensity are the same as the activities for entrepreneurial passion, it is assumed for this research that there is a difference between younger and older entrepreneurs. Following from this assumption, the following hypotheses will test whether there is a difference in passion or not:

Passion for inventing:

H_0: *There is no significant difference between the two age groups for passion for inventing.*

H_A: *There is a significant difference between the two age groups for passion for inventing.*

Passion for founding:

H_0: *There is no significant difference between the two age groups for passion for founding.*

H_A: *There is a significant difference between the two age groups for passion for founding.*

Passion for developing:

H_0: *There is no significant difference between the two age groups for passion for developing.*

H_A: *There is a significant difference between the two age groups for passion for developing.*

3. METHODOLOGY
3.1 Research Design

3.1.1 Selection

For this research, a quantitative method will be used since surveys are used for the data collection and the objective is to test and explain the relationship between the "age" variable and entrepreneurial passion. (Babbie, 2016) Thus, we have two variables and want to explore their relationship. The research design, that suits the quantitative method and the purpose of the research, has to be a quantitative design. The quantitative design that fits the purpose is the correlational research, which is used to describe a relationship between two variables (Salkind, 2010).

3.1.2 Sampling and Variables

The sample size before checking for outliers was 259. The sample consists of entrepreneurs, who are either American or South African. In order to be able to be specific in the research, conditions that have to be fulfilled, have been set. The first condition is that an individual has to be the founder of the organization because the data that are desirable to collect, express the experienced passion of entrepreneurs in their own organization. The second condition is that only entrepreneurs with a higher education background will be included in the research. "There is evidence to support a positive and significant relationship between the level of general education and entrepreneurial performance" (Dickson, Solomon, & Weaver, 2008, p. 242). Based on this finding, the decision was made to only include entrepreneurs with a higher education background for this research, so that the data are more consistent. Since entrepreneurial passion is related to entrepreneurial performance (Iyortsuun, Nmadu, Dakung, & Gajere, 2019), the performance should be held at a comparable level to guarantee coherence and the approach to do so in this research is to keep the level of education high. Entrepreneurial performance is not a variable of analysis in this research and is only used for reasoning, why only including entrepreneurs with a higher education background makes the data more comparable.

The score for the variables 'passion for inventing', 'passion for founding' and 'passion for developing' is computed adding up the scores from the items of the scale that are related to the specific entrepreneurial activity and dividing this value by the number of items that are related to the specific entrepreneurial activity. For example, the scores for the 4 items, which relate to 'founding' are added (e.g. $5 + 7 + 6 + 3 = 21$) and then divided by the number of items, which is 4 for 'founding' ($21 / 4 = 5.25$). Therefore, the score for the entrepreneur with these hypothetical values would be 5.25 for 'passion for founding'. The same applies for the other two variables.

'Age' was originally a continuous variable but for this analysis, the variable was split up into two groups. Creating more than two age groups would have made the N for some groups extremely small (below 10), so it has been decided to only create two groups for age. A smaller sample size increases the probability of a type 2 error, which would mean that our null hypothesis would be accepted, although it is wrong and normally should have been rejected (Columb & Atkinson, 2016). A paper from the United Nations proposes international age classifications and according to this paper, the creation of the following groups would have been appropriate: <24, 25-34, 35-44, 45-54, 55-64, 65< (Department of International Economic and Social Affairs, 1982). But as already explained, this would have resulted in an N for some groups below 10. The same was the case for the division into three age groups. The youngest entrepreneur in the sample was 19 and the oldest was 72, which is a range of 53 years. Dividing these values into two age groups results in the groups 19-44-year-old entrepreneurs and 45-72-year-old entrepreneurs.

3.1.3 Data Collection

This research was conducted in times of the COVID-19 virus, which complicated the data collection of primary data. Since the collection of primary data did not result in a useful set of data, secondary data from existing surveys on entrepreneurial passion among entrepreneurs in South Africa and the USA have been used.

3.1.4 Measurement

For the measurement, the already existing scale by Cardon et al. (2013) will be used, which is a 7-point Likert scale (from 1=completely disagree to 7=completely agree) that includes 13 items. These 13 items can be related to the 3 categories "inventing", "founding" and "developing". 5 of the items relate to "inventing", 4 relate to "founding" and 4 relate to "developing". The scale was originally a 5-point Likert scale but Cardon et al. (2013) recommend using a 7-point Likert scale to prevent having range restrictions.

3.2 Data Analysis

Before analyzing the data set, Cronbach's alpha is calculated to measure the internal consistency of the scale which is used in this research. This is done separately for inventing, founding, and developing. The scores for alpha have to be higher than 0.7 to express internal consistency (Bland & Altaian, 1997). The Cronbach's alpha is 0.83 for 'passion for inventing' (Appendix, table 13), is 0.828 for 'passion for founding' (Appendix, table 14) and is 0.85 for 'passion for developing' (Appendix, table 15). The alpha would not be higher if an item was deleted for any of the three entrepreneurial activities. All three alphas are above 0.7. Therefore, the scale, which is used, is internally consistent.

After investigating Cronbach's alpha, an exploratory factor analysis (EFA) is executed. "It is used where there is no knowledge among the items of the scale, that is, how many factors there are between the items and which factors are determined by which items" (ORÇAN, 2018, p. 415). The correlation matrix (Appendix, table 16) shows no variables with too many correlation coefficients below 0.3 and no variable has a higher coefficient than 0.9. Therefore, there is no problem with the data, and it can be continued with the analysis. The Bartlett's test of Sphericity presents a significant p-value (<0.001), which confirms that there are patterned relationships. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.886, which is higher than 0.5, thus the EFA can be conducted (Appendix, table 17). In the 'Total Variance Explained' table (Appendix, table 18) one can see that there are 3 components with an eigenvalue above 1. In the 'Rotated Component Matrix' (Appendix, table 19) the items loading for each component are shown. One item can load for more than one component but only the highest loading of the item is considered. There are 5 items for component 1, 4 items for component 2, and 4 items for component 3. Based on this, the items can be grouped and the groups where the items are in can be defined by the nature of the item (Yong & Pearce, 2013).

In order to answer the research question an analysis of differences between the two above mentioned groups from the sample will be executed. The decision-making process on which statistical method to use will be explained in the following section. After the analysis of group differences for each dependent variable, a linear regression will be done also for each dependent variable. The analysis will be performed separately for each entrepreneurial activity. Thus, results will be displayed in separate sections for 'inventing', 'founding' and developing'.

The first step when analyzing the data set will be a check for outliers by using boxplots. "An outlier is a data point that is significantly different from the remaining data." (Aggarwal, 2017, p. 1) Due to the reason that the removal of outliers can increase the accuracy and reduce the errors of inference, which is important because otherwise wrong conclusions could be drawn from the statistical analysis (Osborne & Overbay, 2004).

The next step will be to create the descriptive statistics in order to get an overview of the sample and get a basic understanding (Shi & McLarty, 2009). The outcome of the descriptive statistics will also be used to investigate whether the distributions are normally distributed or not. Finding out how the data are distributed will be the first step in the decision-making process on which statistical method to use for further analysis. Instead of

choosing the informal approach, which is to look at the histogram of the data, the Shapiro-Wilk test will be used as the test for normality (Ghasemi & Zahediasl, 2012).

After analyzing the descriptive statistics, a statistical method for analyzing group differences has to be chosen. The Shapiro-Wilk test results showed for all three entrepreneurial activities, that the distributions are not normally distributed. This leads to the conclusion that a non-parametric method has to be used (Hoskin, 2012). Moreover, the data that will be analyzed are in two independent samples. Considering this fact, there are three tests left, which could be applied: Mann-Whitney test, Chi-square test for independence, median test. Beginning with the Chi-square test, there are several assumptions, that have to be fulfilled so that the test can be used. The first assumption is "The level of measurement of all the variables is nominal or ordinal" (McHugh, 2013, p. 143). Our dependent variable, which is either 'passion for inventing', 'passion for founding' or 'passion for developing', is in all three cases not nominal or ordinal but continuous. Therefore, the first assumption for the Chi-square test for independence is not fulfilled and the test cannot be used as a method for this research. The median test is used to search for differences in the median between the two groups (Chen Z. , 2014). This is not what is wanted for this analysis because in case the outcome of the median test shows that there is no significant difference between medians of the two groups, one would have to conclude that there is no difference between the groups. Due to the fact that the spread of the data is not taken into account, there is a possibility that there is a difference between the two groups, which have been investigated, but this difference could not be found because the medians are rather equal. The Mann-Whitney test, tests for differences between two groups and therefore fits the requirements of this research and will be the statistical method of choice (Mann & D., 1947).

The test will be two-tailed since prior to the analysis it is not assumed which group is the one that scores lower or which scores higher.

Next to finding out whether there is a difference between the two age groups or not, this research is interested in investigating how much of the variance in 'passion for inventing', 'passion for founding', and 'passion for developing' can be explained by the independent variable. This will be measured with R^2 (De Veaux, Velleman, & Bock, 2016). A simple linear regression analysis will be performed in order to get the value for R^2. In addition, the simple linear regression analysis will be used to determine whether age is a significant predictor for passion for the three entrepreneurial activities. Prior to performing the simple linear regression analysis, the 'AgeGroups' variable has to be coded into a dummy variable, which means that the variable has the values 0 and 1 (te Grotenhuis & Thijs, 2015). In this case, the first age group, ranging from 19 years old to 44 years old, is coded as 0 and the second age group (45-72) is coded as 1. Along with the simple linear regression analysis, a biserial correlation will be done to measure the strength and the direction of association between 'age' and each variable for the passion for the entrepreneurial activities. The biserial correlation is used because the dichotomy of the 'age' variable is artificially created (Allen, 2017).

4. RESULTS

In the results section, the outcomes of the different tests will be reported but not interpreted, which means no conclusions will be drawn in this section. From here on, the two age groups will be called as follows:

Age 19-44 → Group 1

Age 45-72 → Group 2

4.1 Passion for Inventing

Table 1: Descriptive Statistics (Passion for Inventing)

AgeGroups			Statistic	Std. Error
Inventing	19-44	Mean	6,3839	,04718
		Median	6,6000	
		Variance	,470	
		Std. Deviation	,68531	
		Minimum	4,60	
		Maximum	7,00	
	45-72	Mean	6,7590	,06155
		Median	7,0000	
		Variance	,148	
		Std. Deviation	,38438	
		Minimum	6,00	
		Maximum	7,00	

The descriptive statistics for group 1 (n=211) show an average score (mean) of 6.3839 for the score for 'passion for inventing' with a SD (standard deviation) of 0.6853, which shows how the data are spread. The scores reach from a minimum of 4.6 to a maximum of 7. The median for group 1 is 6.6. For group 2 the average score for 'passion for inventing' is 6.759 with a SD of 0.3844. The scores reach from a minimum of 6 to a maximum of 7. The median for group 2 is 7. (Table 1)

Table 2: Test for Normality (Passion for Inventing)

	AgeGroups	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Inventing	19-44	,202	211	,000	,840	211	,000
	45-72	,401	39	,000	,642	39	,000

a. Lilliefors Significance Correction

For the test for normality, the Shapiro-Wilk test was used. The test for group 1 shows that the distribution of group 1 is significantly not normally distributed (W(211) = 0.84, p<0.001). The distribution of group 2 is also not normally distributed and this result is significant (W(39) = 0.642, p < 0.001). (Table 2)

Table 3: Mann-Whitney test (Passion for Inventing)

Ranks

	AgeGroups	N	Mean Rank	Sum of Ranks
Inventing	19-44	211	119,00	25108,00
	45-72	39	160,69	6267,00
	Total	250		

Test Statistics[a]

	Inventing
Mann-Whitney U	2742,000
Wilcoxon W	25108,000
Z	-3,443
Asymp. Sig. (2-tailed)	,001

a. Grouping Variable: AgeGroups

The Mann-Whitney test results (U = 2742, p = 0.001) show a p-value below 0.05, which is significant. Moreover, the test shows mean rank of 119 for group 1 (N = 211) and 160,69 for group 2 (N = 39). (Table 3)

Table 4: Simple Linear Regression (Passion for Inventing)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,206[a]	,043	,039	,64832

a. Predictors: (Constant), AgeGroups

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,631	1	4,631	11,018	,001[b]
	Residual	104,240	248	,420		
	Total	108,871	249			

a. Dependent Variable: Inventing

b. Predictors: (Constant), AgeGroups

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6,384	,045		143,033	,000
	AgeGroups	,375	,113	,206	3,319	,001

a. Dependent Variable: Inventing

Correlations

		Inventing	AgeGroups
Inventing	Pearson Correlation	1	,206**
	Sig. (2-tailed)		,001
	N	250	250
AgeGroups	Pearson Correlation	,206**	1
	Sig. (2-tailed)	,001	
	N	250	250

**. Correlation is significant at the 0.01 level (2-tailed).

The ANOVA table (F (1,248) = 11.018, p = 0.001) presents a p-value below 0.05, so it is significant. The simple linear regression analysis shows an explained variance (R square) of 0.043. The predicted value (Unstandardized B) for the 'passion for inventing' score for group 1 is 6.384 and is 6.759 for group 2. The predicted value for group 2 is calculated by adding the value Unstandardized B value for 'AgeGroups' (0.375) to the Unstandardized B value of the Constant (6.384). The outcome of the biserial correlation is presented in the 'Correlation' table. It shows a correlation coefficient of 0.206 which is significant because the p-value is below 0.05. (Table 4)

4.2 Passion for Founding

Table 5: Descriptive Statistics (Passion for Founding)

	AgeGroups		Statistic	Std. Error
Founding	19-44	Mean	6,1148	,05937
		Median	6,2500	
		Variance	,737	
		Std. Deviation	,85834	
		Minimum	3,25	
		Maximum	7,00	
	45-72	Mean	6,5238	,08164
		Median	6,6250	
		Variance	,280	
		Std. Deviation	,52906	
		Minimum	5,25	
		Maximum	7,00	

The average score for 'passion for founding' is 6.1148 for group 1 and is 6.5238 for group 2, with a SD of 0.8583 for group 1 and 0.5291 for group 2. For group 1 scores reach from 3.25 to 7 and for group 2 the scores reach from 5.25 to 7. The median is 6.25 for group 1 and is 6.625 for group 2. (Table 5)

Table 6: Test for Normality (Passion for Founding)

	AgeGroups	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Founding	19-44	,161	209	,000	,888	209	,000
	45-72	,221	42	,000	,836	42	,000

a. Lilliefors Significance Correction

According to the Shapiro-Wilk test, the distributions of group 1 (W(209) = 0.888, p<0.001) and for group 2 (W(42) = 0.836, p<0.001) are significantly not normally distributed. (Table 6)

Table 7: Mann-Whitney test (Passion for Founding)

Ranks

	AgeGroups	N	Mean Rank	Sum of Ranks
Founding	19-44	209	120,51	25186,50
	45-72	42	153,32	6439,50
	Total	251		

Test Statistics[a]

	Founding
Mann-Whitney U	3241,500
Wilcoxon W	25186,500
Z	-2,715
Asymp. Sig. (2-tailed)	,007

a. Grouping Variable: AgeGroups

The mean ranks are 120.51 for group 1 (N = 209) and 153.32 for group 2 (N = 42). For 'passion for founding' the Mann-Whitney test (U = 3241.5, p = 0.007) reports a p-value below 0.05, which means that it is significant. (Table 7)

Table 8: Simple Linear Regression (Passion for Founding)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,185[a]	,034	,030	,81334

a. Predictors: (Constant), AgeGroups

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5,850	1	5,850	8,842	,003[b]
	Residual	164,720	249	,662		
	Total	170,570	250			

a. Dependent Variable: Founding
b. Predictors: (Constant), AgeGroups

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6,115	,056		108,689	,000
	AgeGroups	,409	,138	,185	2,974	,003

a. Dependent Variable: Founding

Correlations

		Founding	AgeGroups
Founding	Pearson Correlation	1	,185[**]
	Sig. (2-tailed)		,003
	N	251	251
AgeGroups	Pearson Correlation	,185[**]	1
	Sig. (2-tailed)	,003	
	N	251	251

**. Correlation is significant at the 0.01 level (2-tailed).

The p-value from the ANOVA table ($F_{(1,249)} = 8.842$, p = 0.003) is 0.003 an therefore below 0.5, thus it is significant. The R square is 0.034 and the predicted value for group 1 is 6.115 while the predicted value for group 2 is 6.524. The Pearson correlation coefficient is 0.185 and is significant since the p-value is below 0.05. (Table 8)

4.3 Passion for Developing

Table 9: Descriptive Statistics (Passion for Developing)

	AgeGroups		Statistic	Std. Error
Developing	19-44	Mean	5,9233	,06544
		Median	6,0000	
		Variance	,908	
		Std. Deviation	,95284	
		Minimum	3,25	
		Maximum	7,00	
	45-72	Mean	6,3837	,10064
		Median	6,5000	
		Variance	,436	
		Std. Deviation	,65997	
		Minimum	4,50	
		Maximum	7,00	

For 'passion for developing', the descriptive statistics show for group 1 a mean of 5.9233 with a SD of 0.9528. For group 2 they show a mean of 6.3837 with a SD of 0.66. Scores from group 1

reach from 3.25 to 7 and scores from group 2 reach from 4.5 to 7. The median for group 1 is 6 and the median for group 2 is 6.5. (Table 9)

Table 10: Test for Normality (Passion for Developing)

	AgeGroups	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Developing	19-44	,129	212	,000	,912	212	,000
	45-72	,199	43	,000	,843	43	,000

a. Lilliefors Significance Correction

That the distributions of group 1($W_{(212)} = 0.912$, p<0.001) and group 2 ($W_{(43)} = 0.843$, p<0.001) are not normally distributed is significant, which is shown by the Shapiro-Wilk test. (Table 10)

Table 11: Mann-Whitney test (Passion for Developing)

Ranks

	AgeGroups	N	Mean Rank	Sum of Ranks
Developing	19-44	212	121,99	25862,00
	45-72	43	157,63	6778,00
	Total	255		

Test Statistics[a]

	Developing
Mann-Whitney U	3284,000
Wilcoxon W	25862,000
Z	-2,917
Asymp. Sig. (2-tailed)	,004

a. Grouping Variable: AgeGroups

The p-value that is presented in the Test Statistics table is below 0.05, which means it is significant. Additionally, the Mann-Whitney test (U = 3284, p = 0.004) shows a mean rank of 121.99 for group 1 (N = 212) and mean rank of 157.63 for group 2 (N = 43). (Table 11)

Table 12: Simple Linear Regression (Passion for Developing)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,187[a]	,035	,031	,91076

a. Predictors: (Constant), AgeGroups

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7,577	1	7,577	9,134	,003[b]
	Residual	209,861	253	,829		
	Total	217,437	254			

a. Dependent Variable: Developing
b. Predictors: (Constant), AgeGroups

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5,923	,063		94,696	,000
	AgeGroups	,460	,152	,187	3,022	,003

a. Dependent Variable: Developing

Correlations

		Developing	AgeGroups
Developing	Pearson Correlation	1	,187**
	Sig. (2-tailed)		,003
	N	255	255
AgeGroups	Pearson Correlation	,187**	1
	Sig. (2-tailed)	,003	
	N	255	255

**. Correlation is significant at the 0.01 level (2-tailed).

In the ANOVA table ($F(1,253) = 9.134$, $p = 0.003$) above a p-value below 0.05 is presented. Thus, it is significant. The value for R square is 0.035. The predicted value for 'passion for developing' is 5.923 for group 1 and 6.383 for group 2. Because the p-value for the correlation coefficient, which is 0.187, is below 0.05, the correlation coefficient is significant. (Table 12)

5. CONCLUSION

In this part, the results from the last part will be interpreted and discussed for each of the three entrepreneurial activities. Moreover, the sub-questions, that have been set to find an answer to the main research question '*In what way does the age of entrepreneurs influence their entrepreneurial passion?*' will be answered. This will be done after looking into passion for the single entrepreneurial activities.

5.1 Passion for Inventing

The first step in the analysis was to create the table for descriptive statistics (Table 1). This table shows that with an average value of 6.759 the mean for the second age group is higher than the mean for group 1, which is 6.3839. This means that on average the entrepreneurs, who are between 45 and 72 years old have more passion for inventing than entrepreneurs, who are between 19 and 44 years old. In addition to that, the standard deviation is lower for group 2 compared to group 1. This indicates that the scores for 'passion for inventing' can be found more around the mean compared to the scores from group 1 which are more widely spread. This is supported by the fact that the minimum from group 1 is 4.6 and the minimum score from group 2 is 6. This indicates that there is a tendency for entrepreneurs from the older group to be more passionate about the entrepreneurial activity 'inventing'. to investigate whether this tendency is significant and can be proven, the Mann-Whitney test and a simple linear regression analysis have been performed.

The Mann-Whitney test (Table 3) was performed to test for differences between the two age groups. As described in the results part, the p-value for the test was below 0.05 which is significant, so that it can be stated that there is a significant difference between the two age groups. The mean rank for group 2 was 160.69 and the mean rank for group 1 119. This means that on average, when all scores are ranked after each other, the scores from the second age group are ranked at a higher position than the scores from the first age group. Therefore, the tendency which has been identified by analyzing the descriptive statistics is confirmed and significant.

From the simple linear regression analysis (Table 4) it can be concluded that the 'age' variable is a significant predictor for the 'passion for inventing' variable since the p-value for the F-value is below 0.05. The R square is 0.043 and expresses that 4.3% of the variance that exists in the 'passion for inventing' variable can be explained by the age group an entrepreneur belongs to. The main conclusion that can be drawn from the simple linear regression analysis is that there is a linear relationship between the two variables. The biserial correlation shows a significant

association between 'age' and 'passion for inventing' with a correlation coefficient of 0.206. This indicates that with increasing age, the passion for inventing also increases. For this research, it means that the second age group experiences more passion for inventing than the first age group. Although the correlation coefficient is significant, it is not very high.

For the Mann-Whitney test, the simple linear regression, and the biserial correlation, the p-values are below 0.05. This means that the positive relationship is significant and the null hypothesis for passion for inventing can be rejected. Therefore, the alternative hypothesis is accepted. This states that there is a significant difference between the two age groups for passion for inventing.

The sub-question that can be answered by the analysis presented in this part of the thesis is: *In what way does the age of entrepreneurs influence their entrepreneurial passion for 'inventing'?*

The three tests show that the second age group experiences more passion for inventing than the first group. Due to the low r^2 (4.3%) and the low correlation coefficient (0.206) the relationship is not very strong. The answer to the sub-question is: *The age of entrepreneurs has a positive linear relationship to the passion they experience for the entrepreneurial activity 'inventing' but the strength of this relationship is small.*

5.2 Passion for Founding

From the descriptive statistics table (Table 5) it can be interpreted that entrepreneurs from group 2 tend to score higher for 'passion for founding' than entrepreneurs from group 1. This is represented by the fact that the mean and the median are higher for group 2 and that the SD is smaller. Moreover, the lowest score from group 2 is 5.25 as the lowest score for group 1 is 3.25. With 0.8583 as the value for the SD, the data for group 1 are widely spread whereas the data for group 2 are more centered towards the mean score. The mean is a high score for group 2 and since the data are less spread, there are many scores in the area that could be called 'high'. The large spread of the data from group 1 increases the probability that data a further away from being called 'high'.

As a conclusion from the Mann-Whitney test (Table 7), the supposed differences between the two groups can be proven. With a p-value of 0.007, it has to be reported that there is a significant difference between the groups. These differences are expressed by the mean rank, which is 120.51 for group 1 and is 153.32 for group 2. The conclusion that can be drawn is that the older entrepreneurs scored significantly higher compared to the younger entrepreneurs.

A significant linear relationship between age and the passion for founding is confirmed by the simple linear regression analysis (Table 8). The proportion of variance in 'passion for founding' that can be explained by the age group is 3.4%, which is low. A significant association between the two variables is reported by the biserial correlation with a correlation coefficient of 0.185. Therefore, older entrepreneurs experience more passion for founding than younger entrepreneurs.

Due to the fact that all three tests showed a p-value below 0.05, the alternative hypothesis for passion for founding has to be accepted, which says that there is a significant difference between the two age groups for passion for founding.

The answer to the sub-question *In what way does the age of entrepreneurs influence their entrepreneurial passion for 'founding'?* is *The age of entrepreneurs has a positive linear relationship to the passion they experience for the entrepreneurial activity 'founding' but the strength of this relationship is small.*

5.3 Passion for Developing

What can be derived from the analysis of the descriptive statistics (Table 9) is that entrepreneurs from group 2 score higher for 'passion for developing' compared to entrepreneurs from group 1. This can be assumed because the mean and the median are higher for group 2 than for group 1 and the SD is lower for group 2. As explained for the two other variables the higher mean and smaller SD result in more scores close to the median which is already higher than the one from group 1, which scores are more widely spread. Last but not least, the minimum score for the first group is 3.25 whereas the minimum score for the second group is 4.5, which supports the assumption.

From the p-value of 0.004 for the Mann-Whitney test (Table 11), it can be concluded that there is a significant difference between group 1 and group 2. The mean rank is 121.99 for group 1 and 157.63 for group 2. Therefore group 2 scores significantly higher on 'passion for developing' than group 1.

As a result from the simple linear regression analysis (Table 12), it can be concluded there is a significant linear relationship between age and the passion an entrepreneur experiences for 'developing'. Furthermore, the age groups are a significant predictor for 'passion for developing' due to the p-value of 0.003. 3.5% of the variance in 'passion for developing' can be explained by the age variable. This is not much and means that the strength of the relationship is not high. This is supported by the low correlation coefficient, which is 0.187. The association between the two variables is significant and indicates that older entrepreneurs experience more passion for developing compared to younger entrepreneurs.

The null hypothesis for passion for developing has to be rejected because the three tests all showed a lower p-value than 0.05. As a conclusion, there is a significant difference between the two age groups for passion for developing.

The answer to the sub-question *In what way does the age of entrepreneurs influence their entrepreneurial passion for 'developing'?* is *The age of entrepreneurs has a positive linear relationship to the passion they experience for the entrepreneurial activity 'developing' but the strength of this relationship is small.*

5.4 Conclusion

The question that is going to be answered in this section is: *In what way does the age of entrepreneurs influence their entrepreneurial passion?* which is the main research question of this research. In order to be able to answer this question, entrepreneurial passion has been split up into the passion an entrepreneur experiences for the three entrepreneurial activities 'inventing', 'founding', and 'developing'. The passion among these three activities has been investigated separately in the previous part of the research. For all three activities, the conclusion was that there is a positive relationship between 'age' and the passion experienced per activity since for all three activities the alternative hypothesis was true. But this relationship is not very strong, which is represented by the low values for R square in the simple linear regression analysis and the low values for the Pearson correlation coefficient in the biserial correlation.

In general, it can be concluded that the entrepreneurs with an age between 45 and 72 scored significantly higher for passion for all three entrepreneurial activities and therefore for entrepreneurial passion overall, compared to the entrepreneurs with an age between 19 and 44.

Since the relationship between 'age' and 'passion for inventing', 'passion for founding' and 'passion for developing' was similar,

the conclusion can be drawn that the relationship between 'age' and 'entrepreneurial passion' can be described similar to how the relationship between 'age' and the passion for the three activities can be described. Consequently, the answer to the main research question of this research is: *The age of entrepreneurs has a positive linear relationship to their experienced entrepreneurial passion, but the strength of the relationship is small.*

For all three entrepreneurial activities, the outcome was that entrepreneurs between the age of 45 and 72 experience higher passion towards the specific activity compared to entrepreneurs between the age of 19 and 44. The hypotheses used for this research were based on the finding by Zhang and Acs (2018), that there is an overall increase in entrepreneurial propensity when age increases until an age over 80. It has been explained that activities related to entrepreneurial propensity are also activities that fit with the activities used by Cardon et al. (2013) for measuring passion. The idea was, that if age has an effect on whether someone is inclined to pursue entrepreneurial activities, does age then also have an effect on the passion someone experiences when executing these activities. This will be discussed further in the 'Discussion' chapter.

6. DISCUSSION

Before discussing the findings of the analysis, the outcomes of the exploratory factor analysis have to be taken into account. The 'Rotated Component Matrix' (Appendix, table 19) shows that for component 1 (passion for inventing) one item has not been interpreted correctly, for component 2 (passion for founding), there are three incorrectly interpreted items and for component 3 (passion for developing), there are two items that were interpreted incorrectly. Since out of 13 items, 6 were interpreted incorrectly, one has to be careful and think critically when interpreting the results of the analyses from this paper. The outcomes of the exploratory factor analysis in combination with the low strength of the observed relationship do not provide a solid basis for argumentation.

Based on the conclusion of this paper, it can be stated that age makes a small but significant difference for experienced passion. This fits the findings of Zhang and Acs (2018). Whether entrepreneurial propensity and entrepreneurial passion have any kind of relation cannot be assumed on the basis of the data from this research, but it could be interesting to investigate whether a person who is more inclined to pursue a career in entrepreneurship experiences more passion compared to someone whose propensity for entrepreneurship is lower. As one can see in the research of Zhang and Acs (2018), there is a substantial difference between different types of entrepreneurs regarding the age – propensity relation. It is possible that the same is true for the age – passion relation. This means that it could be that e.g. novice entrepreneurs from different age groups experience passion differently than expert entrepreneurs from different age groups. Such underlying relations have to be uncovered before making definite claims on the relationship between age and entrepreneurial passion.

Referring to the 'Relevance' chapter, this research functions as a basis for future research on the antecedents of entrepreneurial passion as a predictor for entrepreneurial passion. It has been argued that it is possible that one single antecedent is not a predictor that can be seen separately from other antecedents, but rather should be tested together with other antecedents in order to unravel the construct that in the end leads to entrepreneurial passion. As a conclusion, this research can be seen as a complementary piece of literature to entrepreneurship literature and has to be seen as an addition to past insights and findings. Moreover, this paper can be used as a basis for further research, which will be explained in further chapters.

7. RELEVANCE

7.1 Academic Relevance

The academic relevance of this research is the contribution it makes to the existing literature on entrepreneurial passion. As it was mentioned in the introduction of this thesis, to our understanding, the only way the antecedents were used in existing literature was as control variables but not as a predictor variable for entrepreneurial passion. This research provides insights on how the influence of antecedents on entrepreneurial passion can be measured and shows under the section practical relevance why it is important to also investigate antecedents as predictor variables. This research adds on the insights regarding the influence of age on entrepreneurship by explaining the relationship between age and entrepreneurial passion. Together with other researches on the effect of age on entrepreneurship, as e.g. Zhang and Acs (2018), this research contributes to understanding the impact of age on entrepreneurship.

7.2 Practical Relevance

As the outcome of this research showed that older entrepreneurs are more passionate about their entrepreneurial activities compared to younger entrepreneurs, it can be thought of options to support older entrepreneurs. Lévesque and Minniti (2006) argue that older people tend to choose waged labor over creating a new firm due to the fact that a new firm does not produce an income immediately, whereas in waged labor the income is immediate. This issue is a starting point where, for example, policy makers can begin making entrepreneurship for older people more attractive. It is important to make entrepreneurship more attractive for older people since this research found out that they are very passionate about their entrepreneurial activities and will, therefore, be good entrepreneurs with regards to the impacts passion has on multiple aspects of entrepreneurship, such as venture growth, venture performance, access to funding, and entrepreneurial persistence (Newman, Obschonka, Moeller, & Chandan, 2019).

8. LIMITATIONS & IMPLICATIONS FOR FURTHER RESEARCH

In this section, limitations for this research will be presented and implications on how to proceed in this field of research in the future will be given.

8.1 Limitations

A limitation was the sample size, which was relatively small for this research. Due to the sample size, it was not possible to separate the 'age' variable in more than two age groups, because otherwise there would have been groups with less than 10 entrepreneurs. A bigger sample size would have made it possible to split the 'age' variable into more groups and therefore draw more distinct conclusions on the relationship between the age of an entrepreneur and the experienced passion. As shortly mentioned in the data collection section, this study has been done during the situation with the Coronavirus. Based on the problems that organizations faced during these times, entrepreneurs were very busy coping with the situation. Therefore, it is assumed that the time to participate in research studies such as this one was very limited or nonexistent. This was a hindering factor for the data collection since not enough primary data that were useful could be collected.

8.2 Implications for Future Research

The first implication for future research would be to repeat the study with a bigger sample size to deal with the limitation mentioned above. Second, the different antecedents of entrepreneurial passion would be interesting and valuable to investigate in future research. Since this research only took entrepreneurs with a higher education background into account, the research could be recreated with a sample consisting only of entrepreneurs without a higher education background. Additionally, a comparison between different countries where entrepreneurs start their ventures or the country an entrepreneur comes from is a useful approach to do further research on the topic of entrepreneurial passion.

When doing further research in this field it would be interesting to take up on Cardon et al.'s (2013) approach of including 'intense positive feelings' and 'identity centrality' and investigate differences or relationships regarding these two concepts.

As mention in the 'Discussion', it can be interesting to look at the relationship between entrepreneurial propensity and entrepreneurial passion. To build upon this research, one can investigate the differences for different types of entrepreneurs regarding the relationship between age and entrepreneurial passion.

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11. APPENDIX

Table 13: Cronbach's alpha (Passion for Inventing)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.830	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EP1inv	25.43	9.486	.533	.392	.816
EP2inv	25.51	9.158	.705	.557	.773
EP3inv	25.48	9.685	.543	.334	.813
EP4inv	25.58	8.346	.708	.533	.766
EP5inv	25.64	7.858	.655	.484	.786

Table 14: Cronbach's alpha (Passion for Founding)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.812	.828	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EP6fnd	18.11	10.480	.655	.470	.755
EP7fnd	17.99	10.678	.685	.487	.746
EP8fnd	18.15	10.958	.645	.420	.763
EP9fnd	18.68	8.375	.611	.383	.802

Table 15: Cronbach's alpha (Passion for Developing)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.844	.850	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
EP10dev	17.95	9.285	.703	.500	.792
EP11dev	17.87	9.603	.697	.498	.794
EP12dev	17.64	10.775	.710	.508	.799
EP13dev	17.90	9.398	.638	.409	.824

Table 16: Correlation Matrix

Correlation Matrix

		EP1inv	EP2inv	EP3inv	EP4inv	EP5inv	EP6fnd	EP7fnd	EP8fnd	EP9fnd	EP10dev	EP11dev	EP12dev	EP13dev
Correlation	EP1inv	1.000	.619	.302	.464	.367	.435	.314	.423	.292	.356	.249	.290	.390
	EP2inv	.619	1.000	.416	.640	.508	.431	.317	.385	.320	.420	.340	.367	.430
	EP3inv	.302	.416	1.000	.451	.551	.265	.239	.269	.228	.339	.268	.344	.303
	EP4inv	.464	.640	.451	1.000	.619	.473	.339	.405	.246	.388	.362	.331	.449
	EP5inv	.367	.508	.551	.619	1.000	.333	.258	.264	.240	.301	.246	.228	.408
	EP6fnd	.435	.431	.265	.473	.333	1.000	.626	.560	.483	.389	.360	.308	.478
	EP7fnd	.314	.317	.239	.339	.258	.626	1.000	.536	.545	.420	.293	.373	.425
	EP8fnd	.423	.385	.269	.405	.264	.560	.536	1.000	.527	.582	.470	.448	.622
	EP9fnd	.292	.320	.228	.246	.240	.483	.545	.527	1.000	.449	.358	.419	.619
	EP10dev	.356	.420	.339	.388	.301	.389	.420	.582	.449	1.000	.619	.615	.557
	EP11dev	.249	.340	.268	.362	.246	.360	.293	.470	.358	.619	1.000	.625	.538
	EP12dev	.290	.367	.344	.331	.228	.308	.373	.448	.419	.615	.625	1.000	.561
	EP13dev	.390	.430	.303	.449	.408	.478	.425	.622	.619	.557	.538	.561	1.000

Table 17: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.886
Bartlett's Test of Sphericity	Approx. Chi-Square	1681.103
	df	78
	Sig.	.000

Table 18: Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.973	45.946	45.946	5.973	45.946	45.946	3.002	23.092	23.092
2	1.547	11.902	57.848	1.547	11.902	57.848	2.867	22.057	45.149
3	1.120	8.616	66.464	1.120	8.616	66.464	2.771	21.314	66.464
4	.794	6.106	72.570						
5	.601	4.625	77.195						
6	.572	4.400	81.595						
7	.473	3.635	85.231						
8	.403	3.100	88.330						
9	.365	2.806	91.137						
10	.357	2.745	93.881						
11	.288	2.213	96.094						
12	.268	2.058	98.152						
13	.240	1.848	100.000						

Extraction Method: Principal Component Analysis.

Table 19: Rotated Component Matrix

Rotated Component Matrix[a]

	Component 1	Component 2	Component 3
EP5inv	.809		
EP4inv	.782		
EP2inv	.746		
EP3inv	.681		
EP1inv	.590	.408	
EP7fnd		.800	
EP6fnd	.324	.774	
EP9fnd		.697	.369
EP8fnd		.657	.442
EP11dev			.819
EP12dev			.819
EP10dev		.310	.741
EP13dev		.492	.581

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.