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MEASURING RIGHT-WING AUTHORITARIANISM, THE SERBIAN ADAPTATION OF THE RIGHT WING AUTHORITARIANISM SCALE (RWA)

Abstract. Over the last 16 years we have seen the rise of right wing authoritarianism across the world giving us new urgency to further study the phenomenon. One of the key issues is measurement of the construct and in our study we attempt to adapt one of the most used scales to the Serbian language. In a large sample of the general population we have attempted to replicate the structure of the questionnaire, ultimately reaching our own solution to the structure problem. We have tested the adaptation against constructs that are deemed relevant such as conspiracy beliefs and disease avoidance to further validate the adaptation and received partial success. Further research on more diverse populations is needed to determine what exactly is the influence of the Serbian cultural background on the authoritarianism construct, its relationship with other constructs and its measurement, but for now we can say that we have reached a satisfactory adaptation of the scale that can be used in further research.

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1.1 Introduction

The possibility that a wide range of phenomena, from social, political to intergroup behavior, can be represented as a single dimension of an individual's personality called authoritarianism was first introduced in 1950 (Adorno, Frenkel-Brunswick, Levinson, & Sanford). A culmination of their work is the so called F (Fascism) scale that is supposed to measure the right-wing authoritarianism as a personality dimension. From the beginning it was beset by psychometric problems and there were attempts to reconfigure the construct and measure it in a different, more precise instrument such as the Dogmatism (D) scale (Rokeach, 1954) and the Conservatism (C) scale (Wilson, 1973).

A real breakthrough in the measurement of authoritarianism was achieved with seminal work by Altemeyer (1981) who constructed the Right-Wing Authoritarianism scale (RWA). A great body of work has been performed by using this scale over the last four decades. Research has shown that the scale is a significant predictor of certain socio-psychological constructs that are connected to authoritarianism such as religious fundamentalism, aggression, nonconformity and deviance, ethnocentrism and generalized prejudice (Duckitt, Bizumic, Krauss, & Heled, 2010). Individuals with low scores on the RWA scale are generally speaking more liberal, leaning towards individual freedoms, self-expression and democracy (Bizumic & Duckitt, 2018). More recently during the COVID19 pandemic the association between RWA and anti-immigrant attitudes and nationalism were influenced by the level of threat from infectious diseases that faced the population in question. (Hartman, et al, 2021).

Following the ideas of Adorno et al. (1950), Altemeyer (1981) constructed the RWA scale based on three of the original concepts proposed by the aforementioned author. The first one is authoritarian aggression that corresponds to concrete aggression that a person wants to direct at individuals and groups that are marked as subversive to the established order by proper authorities. The second one is authoritarian

submission that represents an overall willingness to behave and act in a way prescribed by the proper authorities. The third is conventionalism that represents a strong commitment to uphold traditional values and behavior patterns. Alternatively this three constructs have been called authoritarianism, conservatism and traditionalism (Duckitt, Bizumic, Krauss, & Heled, 2010; Duckitt & Bizumic, 2013).

The original concept of the scale was that it had several constructs intertwined into one composite dimension, a personality trait called right-wing authoritarianism (Altemeyer, 1981; Altemeyer, 1988; Altemeyer, 1996). This was achieved by creating complex, long items that are double or even triple barreled. This and the fact that three constructs are measured as a single dimension has caused a lot of criticism from the psychometric point of view (Dunwoody & Funke, 2016). This has led to many attempts to redefine the scale by modifying the structure, re-conceptualizing, reducing the items and creating new single barrel items. Most notably there is a modern need to create short but internally consistent measures to cater to the needs of modern psychological empirical research. One of the more notable early attempts to achieve just this is the one made by Zakrisson (2005). In this attempt the scale has been reduced to 15 items, the items themselves underwent a change. They were remade to be single barrel, and shortened to be single sentence. While there are three subscales, the author uses the scale as a single score, and it has shown expected correlation with the social dominance orientation measures.

With regards to the origins of RWA and social dominance orientation, a closely related phenomenon, there are many theories, from the psychoanalytic (Adorno, Frenel-Brunswick, Levinson, & Sanford, 1950), Bandura's social learning (Altemeyer, 1981) to evolutionary (Claessens, Fisher, Chaundhuri, Sibley, & Atkinson, 2020). Also there are genetic underpinnings, the genetic loci that control flexibility in information processing and cognition have some influence in ideological orientation of an individual, and perhaps those loci that regulate fear and anxiety (Hatemi, et al., 2011). The genetic underpinning have been corroborated by a recent twin study that emphasizes RWA heritability over social dominance orientation heritability (Kandler, Bell, & Reimann, 2016). Also a recent twin study has shown that the connections

between RWA and HEXACO model traits honesty and openness to experience are mostly explained by genetic factors (de Vries, Wesseldijk, Karinen, Jern, & Tybur, 2021). These genetic correlates are followed by neurological ones, where there is a report that the anterior cingulate cortex contains more gray matter in individuals who do not have high RWA scores , volume vise, than in the conservatively oriented and that the increase in volume of the right amygdala is associated with conservatism (Kanai, Feilden, Firth, & Rees, 2011).

Right-wing authoritarianism has been inconsistently brought into connection with conspiracy theorizing, if we define conspiracies as collaboration among the powerful to achieve sinister ends through deception and malefaction (Adorno, Frenel-Brunswick, Levinson, & Sanford, 1950; Wood & Gray, 2019), but there have also been some results that differ from this paradigm. RWA is a stronger predictor of pro-, rather than anti-establishment conspiracy theories. High scores on the RWA scales correlate strongly with beliefs about conspiracies surrounding, genetically modified food, climate change, vaccination, and evolution in the United States (Kerr & Wilson, 2021), and in rejection of science in general. Given the ambiguity in the theory we found it prudent to test the hypothesis that RWA is connected to conspiracy theorizing, especially since the COVID19 pandemic has been a source of so many of them. Also it has been noted that perceived threats to the society such as the pandemic have increased the influence or RWA on attitudes such as nationalism and anti-immigrant sentiment. As anxiety about the pandemic increases, it moderates the expression of RWA in the population (Hartman et al., 2021). Finally the ongoing pandemic has placed into focus certain aspects of behavior, the behavioral immune system, that promotes avoidant behavior in order to protect the individual from disease, and that is positively connected to social conservatism (Terrizzi, Shook, & McDaniel, 2013).

2.1 Aim

The aim of this study was to validate the Zakrisson (2005) version of the RWA scale, and determine the relationship of RWA attitudes with conspiracy theories beliefs and disease avoidant behavior.

3.1 Method

The sample consisted out of 532 participants that have filled-in the internet survey that circulated freely on social networks for a period of two weeks. Out of them, 421 (79.1%) have declared themselves as female and the average age of the participant was 34.4 (min = 18; max=80; SD=12.31). With regards to the employment status 175 (32.9%) are students, 40 (7.5%) are unemployed, 208(57.9%) are employed, 9(1.7%) are retired. Other than this we have asked several questions regarding vaccination status and beliefs regarding conspiracies. The battery of tests consisted out of the Perceived Vulnerability to Disease (PVD) Scale and the Right Wing Authoritarianism (RWA) Scale. In processing data we used the methods such as descriptive statistics, independent sample *t*-test, correlation, ANOVA, exploratory and confirmatory factor analysis.

In our procedure we have used several indicators of that allow us to determent if the proposed structure is good fit. One of them is the Root Mean Square Error of Approximation (RMSEA). We placed the maximum acceptable value at .08, while we took <0.05 to reflect a good model fit (Browne & Chudeck, 1993). Further we used the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) in order to determine the goodness of fit. For both indexes we considered values of at least 0.90 to indicate an acceptable model fit, while values of 0.95 and above represent a good solution (Bentler, 1990; Tucker & Lewis, 1973). The last two parameters we used were the Akaike Information Criterion (AIC) and the Baysian Information Criterion (BIC) where models with lower AIC and BIC are considered to be indicators of better model fit (Akaike, 1987; Schwarz, 1978).

Perceived Vulnerability to Disease Scale (PVD; Duncan, Schaller, & Park, 2009) is a 15 item scale consisting out of two subscales, Perceived Infectability (PI) and Germ Aversion (GA). The first subscale consist out of seven ("In general, I am very susceptible to colds, flu and other infectious diseases.") and the second out of eight ("It really bothers me when people sneeze without covering their mouths.") items. The item responses are measured on a seven item Likert scale. The scale has been successfully adapted to the Serbian language (Rokvic & Karan, 2021). Internal consistency for the PI scale was good, with the Cron-

bach's alpha value of .83, but for the GA subscale it is a bit lagging with a Cronbah alpha value of .7.

Right Wing Authoritarianism Scale (RWA; Zakrisson, 2005) is a 15 item scale where responses are measured on a seven point scale. It mostly uses as a composite score but it has three components. One of them is conventionalism ("Our country needs free thinkers who will have the courage to stand up against traditional ways, even if this upsets many people", reverse scored) that has five items, then there is authoritarian aggression ("If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within") consisting out of four items, and finally authoritarian submission ("It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material") consisting of six items.

4.1 Results

First we tested the original model for RWA provided by Zakrisson (2005) in order to see if the structure of the questionnaire holds in the Serbian translation (model 1). After determining that the model does not fit the proscribed criteria, we have proceeded to proceeded to randomly split the sample into two subsamples in order to perform exploratory and confirmatory factor analysis on them. In subsample 1 (N=256, female participants 198(77.3%) and average age 34.67 (SD=12.49)) we have performed exploratory factor analysis (KMO=.818; X^2 (df)=1048.596(105); p<.001) and the results are presented in Table 2. As we can see the subscale authoritarian submission, component 3, has kept its original structure, but there are changes in others and we can see an additional component detaching itself from conventionalism. Although it only has two items, their loading were high and when analyzing the substance of the items we have called the newly minted subscale censorship. We proceeded to further confirm the validity of this model in the second subsample (256 participants, 198 (77.3%) female, average age of the participant is 34.67 (SD=12.49)) by using confirmatory factor analysis. We call this iteration model 2. The results can be found in Table 1. We have also tested a single factor iteration of the scale on the

complete sample and called this model 3. In our further investigations we used the four factor model, in other words model 2 that showed the best metric properties in our investigations.

Table 1. *Model fit indices for confirmatory factor analysis of the RWA*

	X^2 (df)	CFI	TLI	RMSEA	AIC	BIC
Model 1	423.355 (87)	.835	.801	.085	489.355	630.484
Model 2	168.765 (84)	.922	.903	.061	407.100	371.100
Model 3	826.324 (90)	.639	.578	.124	886.324	1014.623

Table 2. Results of the exploratory factor analysis on subsample 1

Item	Component			
	1 – aggressive authoritarianism	2 – conven-tionalism	3 – submissive authoritarianism	4 – censorship
RWA13	.858			
RWA1	.732			
RWA11	.703			
RWA15	.699			
RWA3		.726		
RWA9		.687		
RWA5		.644		
RWA10		.635		
RWA6			.750	
RWA2		.307	.646	
RWA14			.618	
RWA4			.609	
RWA8		-.459	.562	
RWA12				.856
RWA7				.851

With regards to descriptive statistics, calculated on the entire sample, the highest score was detected on the Authoritarian aggression subscale (4.63; SD=1.45) then on the Censorship subscale (3.49; SD=1.83) then on the Conventionalism subscale (3.10; SD=1.35) and finally the lowest score was on the Authoritarian submission subscale (2.96; SD=1.09) with the total score of 3.49 (SD=.95) on a scale of 1 to

7. Answers to questions regarding COVID19, vaccination status and other similar queries can be found in table 3. The differences in aggressive and submissive authoritarianism, conventionalism, censorship and the composite RWA score values with regards to questions relating to conspiracy theories and COVID19 are found in table 4. Correlations between the measured constructs are found in table 5.

Table 3. *Conspiracy and COVID19 related questions.*

Question	Yes N(%)	No N(%)
Are you vaccinated? (Q1)	396 (74.4%)	136 (25.6%)
Is COVID19 a conspiracy? (Q2)	85 (16%)	447 (84%)
Is there a global conspiracy aiming at controlling the world's population? (Q3)	226 (42.5%)	306 (57.5%)
Is COVID19 an artificial creation? (Q4)	225 (42.3%)	307 (57.3%)
Is there an international conspiracy against Serbia? (Q5)	92 (17.3%)	440 (82.7%)
Do you believe in medicine as a science? (Q6)	485 (91.2%)	47 (8.8%)
Do you use alternative medicine methods? (Q7)	216 (40.6%)	316 (59.4%)

Table 4. *Differences in RWA construct values with regards to conspiracy and COVID 19 related questions*

	Aggressive authoritarianism	Conventionalism	Submissive authoritarianism	Censorship	RWA total
	Significance of the difference between yes and no answers to the questions (p).				
Q1	p<.001	p<.001	p<.001	p<.001	p<.001
Q2	p=.005	p<.001	p<.001	p<.001	p<.001
Q3	p<.001	p<.001	p<.001	p<.001	p<.001
Q4	p<.001	p<.001	p<.001	p<.001	p=.001
Q5	p<.001	p<.001	p<.001	p<.001	p<.001
Q6	p=.339	p<.001	p<.001	p<.001	p<.001
Q7	p<.001	p<.001	p=.279	p<.001	p=.007

Table 5. *Correlation between RWA constructs and other measured variables such as participant age, degree of participant religious beliefs, participant political orientation, participant adherence to government measures against COVID19 and PVD subscales.*

	RWA total score	Aggressive authorita-rianism	Conventio-nalism	Submissive authorita-rianism	Censorship
Personal Infectability	-.10*	-	-	-.11*	-
Germ Aversion	-	-	-	-	-
COVID19 measures adherence	-.18**	-.10*	-.22**	-.13**	-
Degree of religiosity	.52**	..36**	.61**	.21**	.26**
Political orientation	.41**	.29**	.41**	.32**	.11**
Participant age	-.19**	-	-.15**	-.22**	-.19**

*p<.05; **p<.01

5.1 Discussion

The adaptation and usage of this scale has proved to be a challenge. Although Zakrisson (2005) herself is using the scale only as a composite score, she did shorten and change the items so that they are single barrel thusly in effect creating subscales. Also she performed confirmatory factor analysis in order to prove her model. More recent adaptations of the scale abandoned the use of a composite score altogether (Duckitt, Bizumic, Krauss, & Heled, 2010; Dunwoody & Funke, 2016), therefore we were left with a question of how to use this scale. Given that the initial intent of the author was not completely clear we have decided to use both approaches. We have treated it as if it had three subscales and modeled it so, removing items until they achieved adequate model fit, but in data interpretation we have also used the composite score. On the other hand, although we have reached adequate model fit in confirmatory factor analysis, the internal consistency of the subscales is not

completely up to standard but the alpha value on the whole scale is, and this furthers our predicament.

This is when we tried to come up with an alternative solution based on our data. We have split the sample in order to perform exploratory factor analysis and determine the number and composition of factors detected by this analysis. Much to our surprise we have detected four not three factors. All the traditional factors were present in essence especially authoritarian submission, but a new factor that was connected to censorship has emerged as the fourth factor. This is a novelty telling us that participants now regard censorship as a societal phenomenon detached from traditional authoritarian concepts that it was considered to be a part of. An inkling of this can perhaps be found in the work of Costello et al (2022). They examined left wing authoritarianism and one of the construct detected was top down censorship. Perhaps this is a sign of the age that censorship is now considered a separate construct that should be taken more into account when considering future research in this area.

We have tested the model arrived at in the first subsample by performing confirmatory factor analysis in the second subsample and found that it was adequate and up to our set criteria. The unidimensional model proved to have the least favorable metric characteristics, so it was discarded. Never the less as per author instructions we have taken the composite score into account because most of the research still uses the composite score on the RWA as a reference point.

In estimating the levels of RWA we used a more nuanced approach, meaning that we did not just use the composite score, but have considered the results at the level of subscales. Looking at this we found that Aggressive authoritarianism is by far the most pronounced trait in our sample followed by censorship and the lowest scores are on submissive authoritarianism. This is somewhat in line with earlier findings (Duckitt & Bizumic, 2013) that have shown the population low on submissive authoritarianism and high on aggressive authoritarianism. We must take this comparison with a grain of salt though, because the sampling is almost a decade apart, two different instruments were used and as we sampled the general population the aforementioned study used

a population of students. Nevertheless it still stands that the results are similar giving us some idea of the stability of the constructs over time in the Serbian population.

Although RWA has been shown to be an inconsistent predictor of conspiracy related thinking (Wood & Gray, 2019), it is still considered to be a good predictor of what is considered establishment related conspiracies. Since our conspiracy related questions can be considered to be in line with a pro-establishment line, for example is there a global conspiracy aiming at controlling the world population, we hypothesized that there would be a relationship between the answers to these questions and RWA levels. The questions were phrased in a yes or no manner so we used the *t*-test to determine the statistical significance in RWA subscale and composite score levels. We were not disappointed. Almost half of the population had some kind of conspiracy beliefs, either regarding the general population, COVID19 of in fact against the Serbian people themselves. In only two cases there was no difference in RWA levels with those believing in conspiracies having higher RWA levels. Aggressive authoritarianism did not vary between those believing in medicine as a science and Submissive authoritarianism showed no difference between those using and not using alternative medicine methods. This is in line with expectations and the results give further credence to the validity of the translation.

What however was surprising was the relationship between RWA and perceived vulnerability to disease. It has been established that the behavioral immune system is linked with socially conservative beliefs (Terrizzi, Shook, & McDaniel, 2013) and that avoidant behavior is an integral part of the behavioral immune system (Duncan, Schaller, & Park, 2009). Perceived vulnerability to disease is connected to disgust, and this is confirmed in the Serbian population (Rokvić & Karan, 2021), and the emotion of disgust has been connected to political conservatives (Shook, Ford, & Boggs, 2017). In addition, a recent theoretical review has clearly stated the relationship between disease avoidance and RWA is well established (Osborne, Costello, Duckit, & Sibely, 2023). Our findings did not corroborate the abovementioned assertion. Why is this we are not entirely sure, this could be an artefact of the population or a cultural distinction of the Serbian population, or perhaps there are even

further subtleties in authoritarianism that indicate that particular cultural flavors of RWA may or may not be connected to disease avoidance. At present further testing of this hypothesis is needed and retesting in different facets of the Serbian population itself to see if we can replicate these findings or are they an artefact of the population surveyed.

As expected, self-reported political orientation (left or right) highly correlated with right-wing authoritarianism. That is interesting is that the strength of the correlation is far lower than literature has lead us to expect (Rattazzi, Bobbio, & Canova, 2007). This could mean that the surveyed population does not have a clear enough understanding of the theoretical division on the left and right. Also what is interesting is that censorship had a very low correlation with political orientation. This could mean that this newly detected facet of authoritarianism is in fact not related to political orientation but is a thing in itself. Further testing of the censorship concept is needed to determine its precise relationship with political orientation and other constructs in political psychology.

What we find very interesting is the low negative correlation between age and right-wing authoritarianism, when the available literature suggests low positive correlation (Hartman et al., 2021). What is also interesting is that when the composite score is broken down to subscales there is no correlation between aggressive authoritarianism and age. This can be interpreted that the population is saturated by the sense of threat all across the age groups and that other factors than age direct the levels of aggressive authoritarianism that have not been researched in this study. Other two facets correspond negatively with age and this could be explained by social and ideological changes in Serbian in the last 40 years with a change from communism to democracy that has been marred by several terrible wars. Such turbulent recent history has left a mark on the psyche of young generations, as one might expect considering the circumstances, and this might be the reason for a negative correlation between age and RWA. Further research in the field of Authoritarianism is needed to thoroughly understand the concept and its facets with regards to the Serbian cultural milieu and to understand its distinct connections with determining and contributing factors, personality basis and relationship with other relevant constructs.

6.1 Conclusion

The RWA short scale created by Zakrisson (2005) is viable to use in the Serbian language, albeit in a modified capacity. We have explained the pros and cons of using the subscales versus using the composite score and we leave it to future researchers' discretion to make the choice how to use this scale. RWA scores are higher in individuals that subscribe to all of the tested conspiracy scenarios, and highest in those that believe that there is a specific international conspiracy against Serbia.

7.1 Literature

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Appendix 1.

Skala desne autoritarnosti (RWA scale)

Pokažite koliko se slažete sa svakom idejom u sledećem upitniku tako što ćete zaokružiti jedan od sledećih brojeva. Molim Vas uradite upitnik brzo vaš prvi instinkt je obično najbolji.

1 – Jako sam protiv 2 – Značajno se ne slažem 3 – Pomalo se ne slažem 4 – Neutralan/na sam 5 – Pomalo se slažem 6 – Dosta se slažem 7 – Potpuno se slažem

1.	Našoj zemlji je potreban snažan vođa koji bi uništio radikalne i nemoralne struje koje postoje u našem društvu danas.	1	2	3	4	5	6	7
2.	Našoj zemlji su potrebni slobodni mislioci, koji će imati hrabrosti da se suprotstave tradicionalistima, čak i ukoliko to učini mnoge nezadovoljnim.	1	2	3	4	5	6	7
3.	Stari način života i stare vrednosti i dalje prestavljaju najbolji način da se živi.	1	2	3	4	5	6	7
4.	Bilo bi dobro za naše društvo ukoliko bismo pokazali tolerantnost prema neoubičajenim vrednostima i mišljenjima.	1	2	3	4	5	6	7

5.	Božiji zakoni prema abortusu, pornografiji i braku moraju biti striktno praćeni pre nego što bude prekasno, i prekršitelji moraju biti kažnjeni.	1	2	3	4	5	6	7
6.	Društvo mora da pokaže otvorenost prema ljudima koji misle drugačije umesto vere u jakog lidera, svet u principu nije zao i opasan.	1	2	3	4	5	6	7
7.	Bilo bi dobro da su novine cenzurisane kako ljudima ne bi mogao biti dostupan destruktivan i odvratan sadržaj.	1	2	3	4	5	6	7
8.	Mnogi dobri ljudi dovode u pitanje državnu politiku, kritikuju crkvu i ignorišu "normalan način života".	1	2	3	4	5	6	7
9.	Treba više odavati čast našim precima zbog načina na koji su stvorili ovo društvo, u isto vreme trebamo sprečiti one sile koje pokušavaju da ga unište.	1	2	3	4	5	6	7
10.	Ljudi bi trebalo da obraćaju manje pažnje na Bibliju i religiju, i da stvore svoje sopstvene moralne standard.	1	2	3	4	5	6	7
11.	Postoje mnogi radikalni i nemoralni ljudi koji pokušavaju da unište stvari, i društvo treba da ih zaustavi.	1	2	3	4	5	6	7
12.	Bolje je prihvatiti postojanje lose liverature nego cenzuru.	1	2	3	4	5	6	7
13.	Činjenice pokazuju da moramo biti oštriji prema kriminalu I seksualnom nemoralu, kako bi se održali red i zakon.	1	2	3	4	5	6	7
14.	Situacija u društvu danas bi bila bolja da se prema bundžijama ophodimo sa razumevanjem i humanošću.	1	2	3	4	5	6	7
15.	Ukoliko društvo to želi, dužnost je svakog istinskog građanina da pomogne da se elimiše zlo koje truje našu zemlju iznutra.	1	2	3	4	5	6	7

Appendix 2.
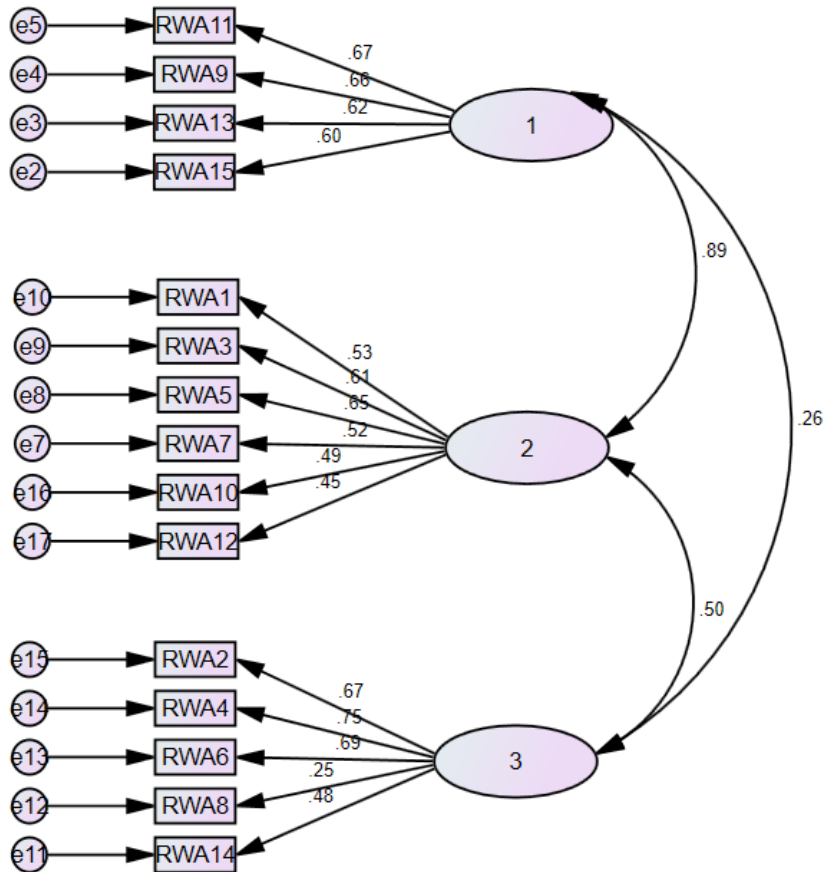
Graph 1. The model proposed by the original author, model 1.
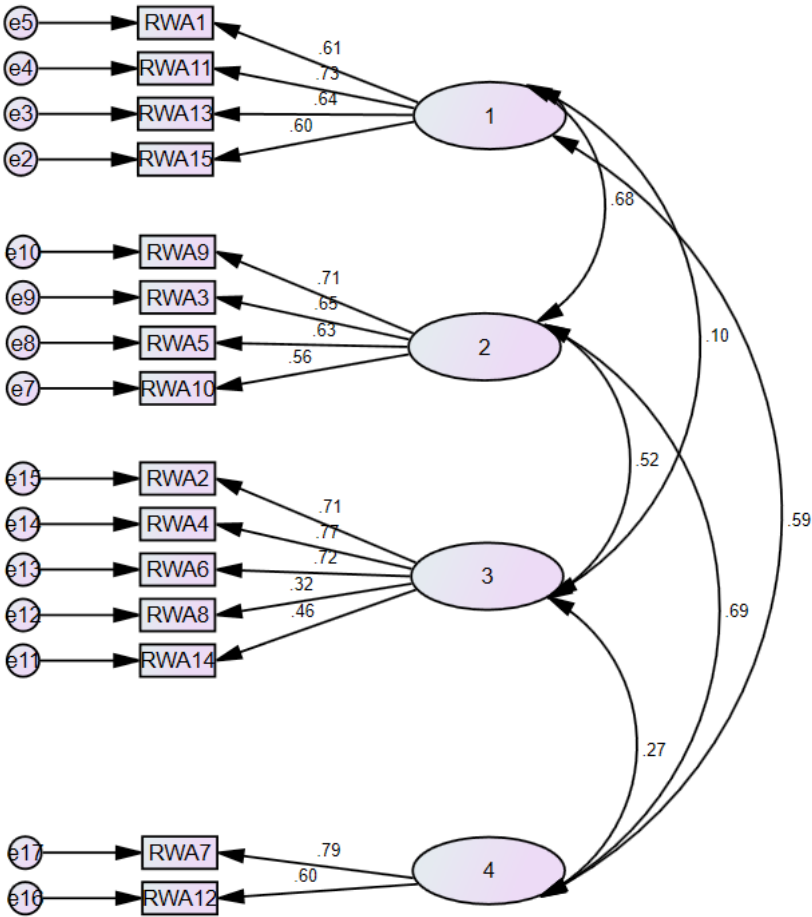
Graph 2. The model proposed by our examinations, model 2.

Graph 3. The single factor model, model 3.