newsletter of 'smartvote', an electronic voting decision-making tool in Switzerland. The newsletter is regularly sent to all registered users of the 'smartvote' online-platform (www.smartvote.ch). The participants, hence, were more interested in politics than the average Swiss citizen. Moreover, participants had an above-average level of higher educational degrees. For the purpose of scale development and validation, this survey sample was separated into two groups, a smaller sample with 157 participants who participated in the control group of the experimental study, and a second sample with 366 participants who participated in the two experimental groups. In the first group (n = 157), 64 percent were males, and the age ranged from 19 to 84 (M=42; SD=14.5). In the second group (n = 366), 69 percent were males, and the age ranged from 18 to 80 (M= 44; SD=15.5).

5.2.3. Data Analysis

The items measuring process preferences and process perceptions were tested by confirmatory factor analysis (CFA) with maximum-likelihood parameter estimation. The analysis used EQS version 6.1 software (Bentler, 2006). CFA is a technique that can greatly enhance confidence in the structure and psychometric properties of a new measure (Noar, 2003) and several studies have provided evidence for the usefulness of CFA in further developing conventional measures of political attitudes (e.g. Funke, 2005; Weatherford, 1992). Data were tested for univariate and multivariate normal distribution. Extreme violations (moderate ones are given in parentheses) on the assumption of the univariate distribution are associated with skew values of at least 3 (2) and kurtosis of at least 20 (7) (West, Finch, & Curran, 1995). These values were not reached in all of the samples. Yuan, Lambert, & Fouladi (2004) developed an extension of the Mardia (1970; 1974) test of multivariate kurtosis that can be applied to data with missing values. The normalized estimate is interpretable as a standard normal variate; the hypothesis of multivariate normality must be rejected if it is outside the range of -3 to +3 (Bentler, 2006, p. 282f.). Strong outliers were excluded from data analysis. Missing values were estimated with the maximum likelihood method, also known as full information maximum likelihood (cf. Bentler, 2006, 275ff.). To evaluate the model fit, the following criteria were evaluated: the Chi-Square value divided by the number of degrees of freedom (< 3), the comparative fit index (CFI > .90), the Root Mean-Square Error of Approximation (RMSEA < .06) with its 90% confidence interval (CI, lower bound < .05, upper bound < .10) (Kline, 2005, p. 133ff.).

5.3. Results

Section 5.3.1 presents the model development and validation of a scale to measure process preferences. Section 5.3.2 describes the development and validation of scales to measure citizens' perception of political processes. In Section 5.3.3, it was

tested whether respondents differentiate between process preferences and process perceptions. In addition, the cultural invariance of the process preferences scale was tested; the results are presented in Section 5.3.4. Moreover, the process preference scale was tested in terms of its invariance as regards different objects of assessment; Section 5.3.5 describes the findings. Finally, the construct validity of the scales is investigated (Section 5.3.6).

5.3.1. Process Preferences: Model Development and Validation

The scale to measure process preferences was designed as a multidimensional research instrument to understand the specific preferences that citizens hold concerning how political decisions should be made. Building on aspects of political efficiency, consensus-orientation, and competition that are discussed in the literature (Hibbing & Theiss-Morse, 2002; Kaase & Newton, 1995; Linder & Steffen, 2006), a set of 17 preference statements was developed. In confirmatory factor analysis, the dimensions of process preferences (consensus-orientation, competition, and efficiency) can be modeled as latent variables that are each reflected by several indicators. Hence, an initial model was developed that specifies how the 17 indicators are related to the three latent factors (preferences towards the efficiency of political processes, preferences as regards the consensus-orientation, and preferences regarding political competition). In the initial model the factor consensus-orientation encompasses six indicators: the respectfulness of political behavior, the fairness of political actors, whether political parties concede a point to the other side, the consideration of diverging interest, the avoidance to distinguish between winners and losers of a political process, and the role of political compromises. The factor competition contains the following six items: whether political actors force their points, the role of political quarrels, the role of power struggles, the persistency of political actors, the ability of political parties to put their plans through, and the possibility of hierarchical orders. The dimension efficiency includes five variables: fast decision-making processes, efficient decision-making processes, simple and short processes, the avoidance of delays in decision-making, and the firm stand of political actors.

The initial model with 17 items was tested with the survey data from the final survey with Swiss citizens. For the purpose of scale development and validation this survey sample was separated into two groups, a smaller sample with 157 participants who participated in the control group of the experimental study, and a second sample with 366 participants who participated in the two experimental groups. The development of the scale is based on the sample with 157 participants. The unstandardized loading of the first indicator was fixed to 1.0 to scale the factor. The initial correlated factors model that was developed did not fit the data. Some indicators were not satisfactory and eight out of the initial 17 indicators were eliminated from

the analysis.[49] The resulting modified model encompasses nine indicators and is presented in Figure 5.1, Cronbach's Alpha was .69. The modified correlated factors model fits the data quite well (see Table 5.1). Standardized factor loading are structure coefficients that estimate indicator-factor loadings. The factor loadings for each set of indicators are relatively high, indicating that the factors are well represented by the according items (see Table 5.2). This also suggests convergent validity. Drawing on Boyle (1991) who argues that establishing reliability at the cost of validity is problematical, items with lower factor loadings (< .6) were not eliminated from the model in order to satisfy the complexity of the constructs.

The data-driven model modification process resulted in a correlated factor model that encompasses three factors with three indicators each. The factor efficiency describes preferences regarding the efficiency of political decision-making and includes indicators that refer to fast and efficient decision-making processes, simple structures of decision-making processes, and the avoidance of delays in political processes. The factor consensus-orientation describes preferences regarding the role of compromises in decision-making processes and encompasses variables that relate to the question of whether one party from time to time concedes a point to the other side, the consideration of divergent interests and compromise-seeking behavior. The factor competition describes preferences regarding the role of competition and clear alternative standpoints in political processes. It includes items that refer to the decisiveness of political actors who force their point, the ability of political parties to put their plans through, and the role of hierarchical orders. The correlations between the factors indicate that the three factors are distinct. For the correlation between the factor consensus-orientation and the factor competition $r = 0.01$; for the correlation between the factors consensus-orientation and efficiency $r = 0.21$; and for the correlation between the factors competition and efficiency $r = 0.64$. All correlations are significant at the 5% level.

49 I did take out the variables referring to the role of political quarrels and role of power struggles related to the competition factor, because those two variables refer too much to conflicts whereas the competition factor generally refers to competitive elements of political decision-making processes which not need be shaped by quarrels and power struggles. After removing these two variables, the item measuring the importance of insisting on an opinion showed a low loading on the competition factor and was also excluded. For the efficiency factor, I took out the two variables referring to efficient decision-making processes and clear instructions, because the Lagrange Multiplier test indicated problems with those variables. Moreover, the loading of the firm stand item was low and, hence, this item was excluded. For the consensus-orientation factor, I excluded the two variables measuring the importance of respectfulness of political behavior and fairness of political actors because both relate to general characteristics of political actors rather than a specific dimension of process preferences. Then I excluded the variable measuring the importance of having no losers of a political decision because of low loading.

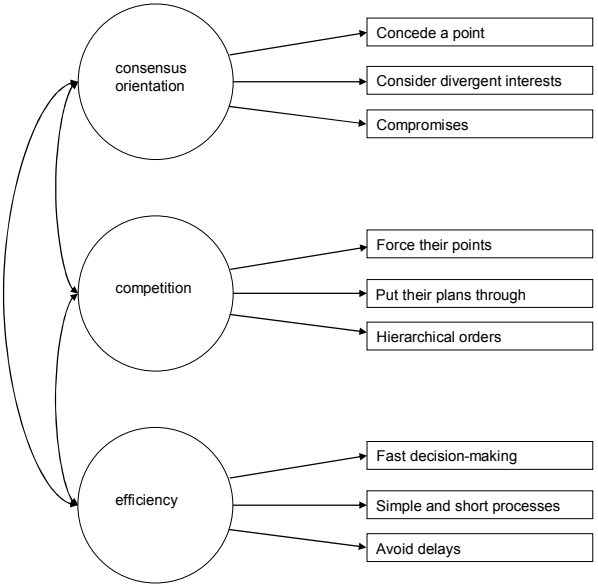

Figure 5.1. Modified Measurement Model of Process Preferences. See Table 5.2 for variables, factor loadings, and indicator reliabilities (i.e. squared multiple correlations

Further tests of alternative models were conducted to evaluate the discriminant and convergent validity of the scale.The modified model was compared with alternative models in a set of multisample analyses. If the models are nested, that is one model is a restricted version of the other, the relative fit of these models can be compared with the Chi-Square difference test. The specification of a model in which each of the nine indicators loads on only one factor provides a precise test of convergent and discriminant validity (Kline, 2005, p. 181). A one-factor model tests whether the items are measuring one overall factor rather than three individual factors. Support for this model would suggest that individuals do not differentiate among different dimensions of process preferences and they would best be represented by a unidimensional construct (Noar, 2003, p. 633f.). The results of selected fit indices clearly indicate poor fit for the one factor model (see Table 5.1). The fit is significantly worse than the fit for the correlated factors model, as the Chi-Square difference test shows.[50] Hence, the observed variables show discriminant validity and measure more than one domain. The three scales allow measuring preferences

50 Given a difference in Degrees of Freedom (df) of 3, the difference in Chi-Square is significant at the level of 5 % if it is 7.815 or larger. The Chi-Square difference here is larger than that value.

concerning efficiency, consensus-orientation and competition separately. In addition, an uncorrelated factors model tests the idea that the three factors are independent. Support for this model would suggest that the three dimensions of process preferences are independent constructs and thus are not related to one another (Noar, 2003, p. 634). Retention of this model suggests that what is being measured here are really three different constructs. As the uncorrelated factors model and the initial correlated factors model are nested, the former one being a restricted version of the latter, the relative fit of these models can be compared with the Chi-Square difference test. The uncorrelated factor model fitted the data not well (see Table 5.1), and the Chi-Square difference test indicates that the correlated factor model fitted the data significantly better.[51]

In general, then, the correlated factor model is superior to a one-factor model and superior to an uncorrelated factor model. The support for the correlated factor model suggests the possibility of a hierarchical model. A hierarchical model tests the idea that a second-order factor can account for relations between the three factors. Hence, the unanalyzed association between the correlated factors model is replaced by a second-order factor, which has no indicators and is presumed to have direct effects on the first-order factors (Kline, 2005, p. 193). This hierarchical model indicates that each of the three preference dimensions are first-order factors that are related to a second-order factor termed the general "process preference" factor. Retention of this model supports the idea that these three scales are subscale of one larger scale. Therefore, the three scales could be examined individually or summed together into one scale. The hierarchical model fits the data equally as well as the correlated factor model. This is the case because the second-order parameterization did not gain any degrees of freedom as it would with more indicators (Bentler, 2006, p. 45). Looking at the parameter estimates, the results indicate that the general factor "process preferences" is well represented by the factors competition and efficiency. However, it is not well represented by the factor consensus-orientation, the factor loading is low (β = .19). Hence, the correlated factors model was chosen as the superior model.

	Fit Indexes				
Models	**Chi^2**	**df**	**Chi^2/df**	**CFI**	**RMSEA**
One-factor model	111.202	27	4.11	.645	.142
Uncorrelated factors model	58.640	27	2.17	.868	.087
Correlated factors model	25.141	24	1.05	.998	.013
Hierarchical model	25.439	24	1.06	.996	.015

Table 5.1. Comparison of Alternative Measurement Models of Process Preferences

51 Given a difference in Degrees of Freedom (df) of 3, the difference in Chi-Square is significant at the level of 5 % if it is 7.815 or larger. The Chi-Square difference here is larger than that value.

Models that are modified based on empirical data require the validation on an independent sample (Kline, 2005). Hence another sample of Swiss citizens from the same study was used (n = 366) for validation of the correlated factors model. The invariance in measurement models represents a continuum (Bollen, 1989, p. 356). Bollen (1989) suggests a hierarchy of invariance that can be assessed along the two overlapping dimensions: Invariance of model form and similarity in the parameter values. The first level refers to the number of factors. The hypothesis to be tested is that there are the same numbers of correlated common factors in both groups. Only if equality in model form is given, the similarity in parameter values can be tested. With respect to similarity in parameter values, I tested (1) whether the factor loadings linking the latent variable to the observed variable are the same in the two samples, (2) whether the factor variances and covariances are invariant, and (3) I tested the equality of measurement error variances as a higher form of invariance. Data analysis supported the hypothesis of invariance in model form. A set of multiple group analyses, then, tested the invariance of factor loadings, factor variances and covariances, and error variances. All parameters are found to be invariant across both samples. The fully constrained comparison results in two equivalent models. Table 5.2 shows the items, factor loadings, and reliabilities of the process preference scale. These results clearly support the validity of the scale. The model fit was satisfactory, with CFI = .98, RMSEA =.03 (90% CI = .00, .05), Chi-Square = 82.61, df = 69. Cronbach's Alpha in the first sample was .69, in the second sample .65. Thus, H1a, which assumes that citizens' process preferences encompass the three dimensions efficiency, consensus-orientation and competition and that these preferences are correlated, is supported.

Latent factor	Items How important is it for you personally that…	Sample 1 (n=152)[a]		Sample 2 (n=349)[b]	
		Factor loadings	Indicator reliabilities	Factor loadings	Indicator reliabilities
Consensus-orientation					
	.. political parties sometimes concede a point to the other side?	.683	.467	.683	.467
	… politicians give consideration to diverging interests when searching for solutions?	.759	.576	.759	.576
	.. political decisions are based on compromises?	.589	.347	.589	.347
Competition					
	... politicians are decisive and force their points?	.543	.294	.543	.294
	... one political side is able to put their plans through?	.611	.373	.611	.373
	.. certain politicians could give hierarchical orders, if a decision has to be taken?	.596	.356	.596	.356
Efficiency					
	.. political problems are solved as fast as possible?	.774	.599	.774	.599
	... political decision-making processes are simple and short?	.826	.683	.826	.683
	... politicians do avoid delays when making political decisions?	.622	.386	.622	.386

Note. Entries are factor loadings and indicator reliabilities (i.e. squared multiple correlations) of the modified (Sample 1) and confirmed scale (Sample 2).

All factor loadings are significant at the 5 % level

a Cases missing to 157 were excluded from the data analysis because they are statistical outliers.

b Cases missing to 366 were excluded from the data analysis because they are statistical outliers.

Table 5.2. Items, Factor Loadings, and Indicator Reliabilities of Process Preferences Scale

5.3.2. Measuring Process Perceptions

A model measuring process perceptions was tested by adapting the process preferences model. The scale to measure process perceptions encompasses three dimensions: consensus perceptions, efficiency perceptions and competition perceptions. The initial model with 17 items was tested with the survey data from the final survey