

National Centre of Competence in Research (NCCR)  
*Challenges to Democracy in the 21<sup>st</sup> Century*

Working Paper No. 24

## **How To Tell What Political Processes People Want? Measuring Citizens' Process Preferences in Surveys**

Daniela Floss

October 2008

First Draft

Contact:  
Daniela Floss  
NCCR Democracy  
Stampfenbachstrasse 63  
8006 Zurich, Switzerland  
d.floss@ipmz.uzh.ch

# How To Tell What Political Processes People Want? Measuring Citizens' Process Preferences in Surveys

FIRST DRAFT

## Abstract

This paper focuses on the operationalization of citizens' preferences concerning how political decisions should be made. Recent research suggests that process preferences are a relevant predictor of the level of confidence citizens have in political institutions. However, there is no standardized scale for the measurement of such preferences. Hence, the aim of this paper is to present the development and validation of a multi-dimensional scale measuring citizens' preferences concerning political decision-making processes. Based on existing research, a theoretical derived model with three dimensions and 16 indicators is tested. Those items were evaluated using confirmatory factor analysis (CFA) in structural equation modeling (SEM) and validated on another independent sample. The results indicate that process preferences consist of three factors: consensus-orientation, competition, and the efficiency of political decision-making processes. Moreover, further studies confirmed the cultural equivalence of the scale and its invariance as regards two different objects of assessment (parliament, government).

## Keywords

Political attitudes, political processes, process preferences, scale development, scale validation

## Contents

Problem And Objectives.....	- 2 -
Theoretical Framework: Discrepancy Theory And the Role of Preferences in Explaining Confidence Levels.....	- 2 -
Method .....	- 5 -
Results .....	- 7 -
Study 1: Model Development And Validation .....	- 7 -
Study 2: Test of Cultural Invariance .....	- 13 -
Study 3: Test of Invariance Regarding Object of Assessment .....	- 15 -
Discussion.....	- 20 -
References .....	- 22 -

### ***Problem and Objectives***

This paper focuses on the operationalization of preferences concerning political decision-making processes. Recent research suggests that process preferences are a relevant predictor of citizens' confidence in political institutions (Hibbing & Theiss-Morse, 2001a, 2002). In line, other studies built on discrepancy theory from cognitive psychology and argue that the relationship between the perception of political realities and corresponding preferences explains variances in confidence levels (Kimball & Patterson, 1997; Patterson, Boynton, & Hedlund, 1969). Those studies focus on attributes of political actors. So far, little attention has been paid to the analysis of processes preferences, and there is no standardized scale for the measurement of such preferences.

Hence, the aim of this paper is to make a methodological contribution by reporting the development and validation process of a multi-dimensional scale that measures citizens' preferences concerning political decision-making processes. The items were evaluated using confirmatory factor analysis (CFA) in structural equation modeling (SEM).

### ***Theoretical Framework: Discrepancy Theory And the Role of Preferences in Explaining Confidence Levels***

Confidence in political institutions can be conceptualized as a citizen's feelings that political actors behave according to preferred norms of democratic governance (Kaina, 2004). The term preference as it is used in this paper refers to "what people want" (Mesquita & McDermott, 2004, p. 276); or more precisely preferences are conceptualized as comparative evaluations of objects that may be observable or unobservable in their nature (Druckman & Lupia, 2000, p. 2f.). Process preferences, thus, refer to the comparative evaluation of different aspects of political decision-making, such as the efficiency of political processes or the role of compromise-seeking behavior of political actors, for instance.

We draw on a relational definition of confidence as an attitude that is based on the relationship between perceptions of political realities and citizens' preferences. The literature review, hence, focuses on political science literature that builds on discrepancy theory from cognitive psychology and argues that the relationship between perceptions and preferences explains confidence levels. Patterson and collaborates (Patterson, Boynton, & Hedlund, 1969) investigate the role of citizens' expectations as determinant of political support. The authors compared perceptions with according expectations concerning characteristic attributes that legislators should have and the role that influencing agencies should play. The authors assess the influence of that relationship between expectations and perceptions on citizens' support of legislators. The results support the main hypothesis that congruence

between perceptions and expectations fosters support, whereas incongruence leads to low levels of support. Hence, the authors conclude that perception-expectation differentials explain variance in support of the legislators.

Further empirical support to this line of theorizing is given by a study of Kimball & Patterson (1997). The authors analyzed expectations toward incumbents, their motives and connections as well as according perceptions of those aspects. The authors state that "public attitudes toward Congress hinge very much upon public expectations, [and] citizens' perceptions of congressional performance" (Kimball & Patterson, 1997, p. 722).

Hence, we built on a solid foundation in assuming that preferences regarding political actors, their characteristics and attributes are explanatory factors of political confidence. This assumption guided this work by suggesting that also process preferences matter as an explanatory variable of confidence in political institutions. However, there is little explicit literature that investigates the precise political process preferences to lead this work in a detailed manner.

Hibbing & Theiss-Morse (Hibbing & Theiss-Morse, 2001a, 2001b, 2002) in their study on process preferences and public approval of government show that the expectations-perceptions discrepancy not only explains attitudes that are based on the perception of political actors but also attitudes based on the perception of political processes. Their research indicates that the relationship between citizens' expectations concerning how political processes should operate and the perceptions of how actual procedures take place explains confidence (Hibbing & Theiss-Morse, 2001a, 2001b, 2002). The authors state that "the extent to which individuals believe actual processes are inconsistent with their own process preferences is an important variable in understanding the current public mood" (Hibbing & Theiss-Morse, 2001a, p. 145). Based on focus group data, Hibbing & Theiss-Morse (2002) argue that American citizens prefer what they call "stealth democracy", that is a latent but efficient representation of citizens' needs. In contrast, deliberation or compromise-seeking endeavors are not valued; either because individuals consider them to be unnecessary, or because citizens value the avoidance of political disagreement in general, or because individuals are not political interested.

Drawing on this work of Hibbing & Theiss-Morse (2002), efficiency and compromise-seeking behavior can be considered as two relevant dimensions of process preferences. Literature on citizens' perceptions of political processes also names efficiency and fair behavior as aspects of political processes that are perceived by the citizens (cf. Weatherford, 1992). Efficiency refers to policy-making without undue waste of time or resources; fairness refers to regular and predictable decision-making processes, and open and equal access to decisional arenas. Using data from the National Election Studies, Weatherford (1992, p. 161) could

show that the differentiation between those process aspects is not only conceptually relevant, but citizens also do distinguish between those different process aspects (Weatherford, 1992, p. 161).

Fairness as a central process dimension is also referred to in the literature on procedural justice, which suggests a variety of indicators of perceived fairness (Thibaut & Walker, 1975; Tyler, 2000; Tyler, DeGoeij, & Smith, 1996). Indicators of procedural fairness from a relational perspective (i.e., the relationship between members of an organization and the organizations' head) are: status recognition, respectful behavior, trustworthiness, and neutrality. Moreover, an equal consideration to the views of different groups and the explanation of decision-making reasons contributes to the perceived justice. From a control or instrumental perspective voice, efficiency, and responsiveness are named as aspects of perceived justice.

Literature on preference formation suggests that "what people want might be socially constructed" (Mesquita & McDermott, 2004, p. 276). It seems plausible to argue that preferences regarding political process develop within a distinct cultural setting and are therefore shaped by the political culture of a nation. Hence, we also refer to literature on different political cultures. The political culture of consensus democracies, such as Switzerland for instance, traces back to the dominant role of negotiations and bargaining processes and the consensus orientation of political institution. Key characteristics of political bargaining are described by Elster (1989, pp. 50-95), who defines bargaining as a decision-oriented form of communication that aims to achieve a compromise between divergent interests. Successful negotiations result in the partial consideration of all participating interests in the form of compromises. Negotiations require a confidential and closed atmosphere and call for consensus orientation and collective actions with all participants winning. This fosters the citizens' expectation that social problems are best solved based on compromises (Linder & Steffen, 2006).

Coalition bargaining, on the contrary, is not valued in competitive democracies, which are shaped by the government-opposition code (Kaase & Newton, 1995). Majoritarian-based or hierarchical processes dominate and they are characterized by elements of competition and the attribution of political achievements to certain political actors. The according expectations are clearly defined programs and parties that are capable of forming governments on their own (Kaase & Newton, 1995, p. 134).

Thus, we suggest another dimension of process preferences: competition. Based on the reviewed literature, we argue that process preferences encompass three different dimensions: consensus-orientation, competition, and efficiency. We think that citizens' process preferences relate to those three dimensions. The dimensions consensus-orientation is associated with the respectfulness and fairness of political behavior, the role of

compromise-seeking endeavors and the fact that there are no winners and losers in political processes. The dimension competition concerns the role of clear orders and the decisiveness of political actors when dealing with conflicts or power struggles in competitive majoritarian-based decision-making processes. The dimension efficiency refers to easy structures of political processes, fast and efficient procedures and the avoidance of delays. The three dimensions are assumed to be correlated.

### ***Method***

Based on the reviewed literature three dimensions of process preferences were deduced: consensus-orientation, competition, and efficiency. In confirmatory factor analysis (CFA) these dimensions can be modeled as latent variables that each are reflected by several correlated indicators. CFA is a technique that can greatly enhance confidence in the structure and psychometric properties of a new measure (Noar, 2003). For instance, CFA can test a variety of conceptualizations of the data and allow the scale developer to compare differing models and ultimately retain the model of best fit.

Building on indicators of political efficiency, consensus-orientation and competition discussed in the literature, a set of 16 preference statements was developed. Those 16 aspects constitute the initial process preference item pool. As a requirement for CFA, an initial model was developed that specifies how the observed variables are related to the three latent factors. The factor consensus-orientation encompasses 6 indicators that relate to the respectfulness and fairness of political behavior, whether political parties concede a point to the other side, the consideration of diverging interest, the avoidance the distinction between winners and losers of a political process, and the role of political compromises. The factor competition contains five items that relate to the decisiveness of political actors, the role of political conflicts and power struggles, the ability of political parties to put their plans through, and the possibility of hierarchical orders. The dimension efficiency includes five variables that refer to fast and 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 16 items was first tested with survey data from Swiss citizens. A standardized online survey was conducted as part of an experimental study on the formation of political attitudes in May and June 2008 in the German speaking part of Switzerland. The survey dealt with attitudes toward the government and politicians. Respondents were recruited through the “smartvote” political newsletter;<sup>1</sup> hence they are more interested in politics than the average Swiss citizen. Moreover, participants had an above-average level of

---

<sup>1</sup> “Smartvote” is an electronic voting decision-making tool in Switzerland The newsletter is regularly sent to all registered users of the online-platform [www.smartvote.ch](http://www.smartvote.ch)

higher educational degrees. The survey encompasses two samples, a smaller sample with 161 participants that served as control group in the further experimental study, and a second sample with 372 participants that served as experimental groups later on. The participants were randomly assigned to the groups. In the first sample of the survey (n=161) survey, 64 percent were males, and the age ranged from 19 to 84 (M=42; SD=14.7). In the second sample (n=372), 66 percent were males, and the age ranged from 15 to 80 (M= 43; SD=15.8).

The cultural invariance of the scales was tested with data from another study. Surveys were conducted with college students in Germany (n=163) and Switzerland (n=150). We only conducted the interviews in the German speaking part of Switzerland, which has the advantage that no translation of the scales was necessary.<sup>2</sup> The college samples seem appropriate for the purpose of scale development, where representative samples are not necessarily required (Noar, 2003, p. 626). The standardized written surveys were conducted in November 2007. The survey dealt with attitudes toward the government and politicians. Respondents were recruited in university courses and lectures; hence, the samples had an above-average number of participants with higher levels of formal education. In the German survey, 42 percent were males, and the age ranged from 18 to 31 (M=22; SD=2.7). In the Swiss survey, 51 percent were males, and the age ranged from 18 to 33 (M= 22; SD=2.8).

In a third study the institutional invariance of the scales was tested with data from another independent survey with 530 Swiss citizens. The standardized online survey was conducted in March and April 2008. Respondents were recruited through post election survey conducted by "smartvote" in November and December 2007. Again, they are more interested in politics than the average Swiss citizen. In addition, the sample again had an above-average level of formal education. In the sample 61 percent were males, and the age ranged from 16 to 76 (M=38; SD=13.9).

The scale was designed as a multidimensional research instrument to understand the specific preferences that citizens hold concerning how political decisions should be made. For each of the three dimensions of political processes identified in the literature review, a set of items was derived, resulting in a total of 16 items in the initial item pool. In the survey, a 7-point scale response format assessed how relevant several aspects of political making-decisions are for the individual respondent. This format provides more information than could be provided with a dichotomous response scale. The 7-point scale allows for variance and is sensitive to slight gradations in responses; an additional "don't know option" was included. When responding to the scale, individuals were asked the following questions:

---

<sup>2</sup> Potential differences in the measurement in the two samples might not be attributed to language differences.

"Citizens have different preferences regarding how political decisions should be made. Please answer according to the following scale how important you consider the various preferences. The scale ranges from 1 (not important at all) to 7 (very important)".<sup>3</sup>

The items for process preferences were tested by confirmatory factor analysis (CFA) with maximum-likelihood parameter estimation. The analysis used EQS version 6.1 software (Bentler, 2006). Data were tested for univariate and multivariate normal distribution and strong outliers were excluded from data analysis. 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 et al., 1995). Those values were not reached in all of the samples. Yuan, Lambert and 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.). The hypothesis of multivariate normality was rejected for the model in study three and the distribution-free Satorra-Bentler method was used for the analysis (cf. Bentler, 2006, p. 137ff.).

Missing values were estimated with the maximum likelihood-method, also known as full information maximum likelihood (cf. Bentler, 2006, 275ff.). To evaluate 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 Bentler-Bonett Normed Fit Index (NFI > .90), the Bentler-Bonett Non-normed Fit Index (NNFI > .90), and the Root Mean-Square Error of Approximation (RMSEA < .05) (Kline, 2005, p. 133ff.).

## **Results**

### *Study 1: Model Development and Validation*

The data from the study with Swiss citizens in May/June 2008 was used for model development, because it is the most comprehensive one of the three data sets. The survey of one group of Swiss citizens encompassed 161 interviews. This sample was used for model development. The initial model is described in the methods section and encompasses three factors that relate to preferences regarding political decision-making processes. The factor "consensus orientation" encompasses six items; the factors "competition" and "efficiency" include five indicators each. 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

---

<sup>3</sup> In the written surveys with college students a Likert response format was used and we asked the following question: Please answers according to the following scale, to what extent you agree to the following statements. The scale ranges from 1 (fully agree) to 7 (do not agree at all).



fit the data. Some indicators were not satisfactory and seven of the initial 16 indicators were eliminated from the analysis. The resulting modified model encompasses nine indicators and is presented in Figure 1, Cronbach's Alpha was .7.

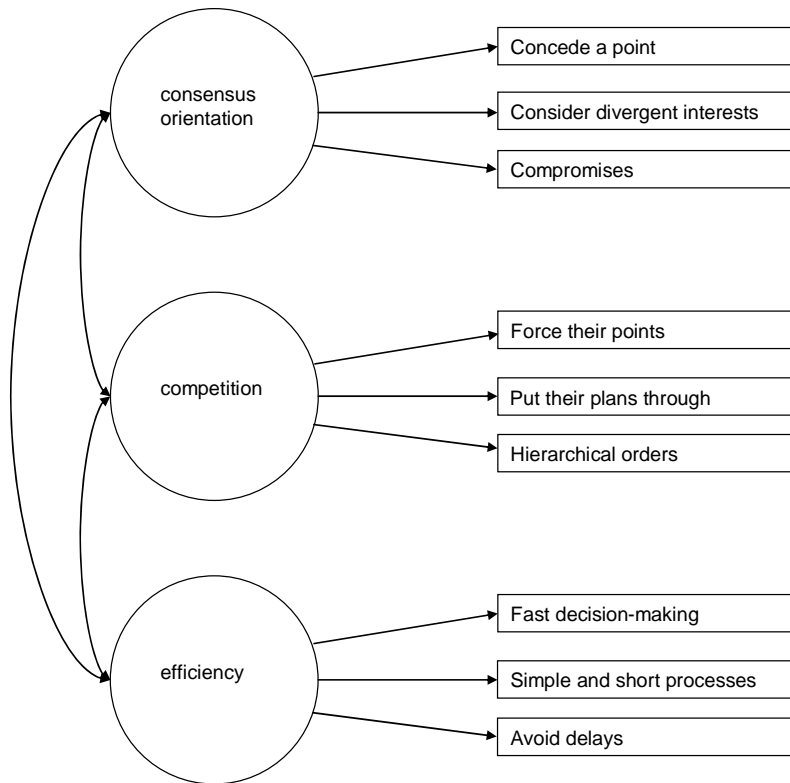
The modified correlated factors model fits the data quite well (see Table 1). Standardized factor loadings are structure coefficients that estimate indicator-factor loadings. The factor loadings for each set of indicators are relatively high, indicating that the factors are well represented by the according items (see Table 2). This also suggests convergent validity. Drawing on Boyle (1991) who argues that establishing reliability at the cost of validity is problematic, also 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 fairness and collective behavior of politicians and encompasses variables that relate to the question 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 that 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. The correlation between the factor consensus orientation and the factor competition is 0.2; the correlation between the factors consensus orientation and efficiency is 0.3; and the correlation between the factors competition and efficiency is 0.66. All correlation but the one between the factors consensus orientation and competition are significant at the 5% level. Because the correlation between the factors competition and efficiency is not that low, further tests were conducted to evaluate the discriminant validity of the scales.

**Figure 1**

**Modified Measurement Model Process Preferences**



Note. See Table 3 for Variables, Factor Loadings, and Indicator reliabilities (i.e., squared multiple correlations)

The modified model was compared with alternative models and a set of multisample analyses were conducted to test the alternative models. 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 1). The fit is significantly worse than the fit for the correlated factors model, as the Chi-Square difference test shows.<sup>4</sup> Hence, the observed variables show discriminant validity and measure more than one domain. The three

<sup>4</sup> 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.

scales allows to measure preferences concerning efficiency, consensus-orientation and competition separately.

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 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 1), and the Chi-Square difference test indicates that the correlated factor model fitted the data significantly better.<sup>5</sup>

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 subscales of one larger scale. Therefore, the three scales could be examined individually or summed together into one scale. The hierarchical model fits the data exactly 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). Given the rather low correlations among the factors, however, the correlated factors model was chosen as the superior model.

**Table 1**  
**Comparison of Alternative Measurement Models of Process Preferences**

<i>Models</i>	<i>Fit Indexes</i>				
	<i>Chi<sup>2</sup></i>	<i>df</i>	<i>Chi<sup>2</sup>/df</i>	<i>CFI</i>	<i>RMSEA</i>
One-factor model	88.658	27	3.28	.701	.130
Uncorrelated factors model	57.633	27	2.13	.851	.092
Correlated factors model	24.106	24	1.00	1.000	.000
Hierarchical model	24.106	24	1.00	1.000	.000

<sup>5</sup> 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 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=372) for validation of the correlated factors model. The invariance in measurement models represents a continuum (Bollen, 1989, p. 356). Bollen suggests a hierarchy of invariance that can be assessed along two overlapping dimensions: 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, we 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) we tested the equality of measurement error variances as a higher form of invariance.

Data analysis supported the hypothesis of invariance in model form. In a set of multiple group analyses we 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 2 shows the items, factor loadings, and reliabilities of the process preference scales. These results clearly support the validity of the scales. The calculated fit indices for the group comparison are:  $\chi^2 = 107.643$ ;  $df = 69$ ; CFI = .963; NFI = .902; NNFI = .957; RMSEA = .046. Cronbach's Alpha in the first sample was .71, in the second sample .67.

**Table 2**  
**Items, Factor Loadings, and Indicator Reliabilities of the Process Preferences Scales**

Latent factor	Items	Sample 1	Sample 2		
		(n=161)	(n=372)	(n=372)	
		Factor loadings	Indicator reliabilities	Factor loadings	Indicator reliabilities
	How important is it for you personally that...				
Consensus-orientation	.. political parties sometimes concede a point to the other side.	.686	.470	.686	.470
	... politicians give consideration to diverging interests when searching for solutions.	.757	.573	.757	.573
	.. political decisions are based on compromises.	.547	.299	.547	.299
Competition	... politicians are decisive and force their points.	.540	.292	.540	.292
	... one political side is able to put their plans through.	.579	.335	.579	.335
	.. certain politicians could give hierarchical orders, if a decision has to be taken.	.593	.352	.593	.352
Efficiency	.. political problems are solved as fast as possible.	.790	.624	.790	.624
	... political decision-making processes are simple and short.	.814	.662	.814	.662
	... politicians do avoid delays when making political decisions.	.635	.403	.635	.403

Note. Factor loadings and indicator reliabilities (i.e., squared multiple correlations) of the modified (Sample 1) and confirmed scales (Sample 2).

All factor loadings are significant at the 5 % level

### *Study 2: Test of Cultural Invariance*

Cultural invariance refers to the aspect that a construct has the same meaning in different cultures. Measurement invariance is a precondition for interpreting differences in scores in different cultures (cf. Bensaou, Coyne, & Venkatraman, 1999; Little, 1997). "Inadequate testing for the invariance of data across national groups weakens the interpretations that may be derived from cross-national empirical research" (Bensaou, Coyne, & Venkatraman, 1999, p. 672).

We tested the metric invariance of the process preference scales with samples from two different cultures: Switzerland as consensus democracy and Germany as rather competitive democracy. The data from this comparative survey, however, did not encompass all nine scales items. Therefore we were able to test the cultural invariance on a restricted data set only. Missing variables are the ones that refer to the question whether political parties should concede a point to the other side, one political party is able to put their plans through, and delays in political processes are avoided. Thus, for each of the three dimensions the data set contains two variables; the variables are shown in Table 3.<sup>6</sup>

The test of measurement invariance between cultures also is evaluated as a continuum (cf. Bensaou, Coyne, & Venkatraman, 1999; Steenkamp & Baumgartner, 1998). Again we tested the invariance in model form and the similarity in parameter values, i.e., the invariance of factor loadings, the invariance of factor variances and covariances, and the invariance of error variances.

Data analysis supported the hypothesis of invariance in model form. In a set of multiple group analyses we then tested the invariance in parameter values. By setting equality constraints, we tested the invariance of factor loadings, factor variances and covariances. All parameters are found to be invariant across both samples. The model that in addition constrained the error variances to be equal across the two groups did not fit the data, however. Table 3 shows the items, factor loadings, and reliabilities of the process preference scales for the model with equality constraints on the invariance of factor loadings, factor variances and covariances. The calculated fit indices for the group comparison are:  $\chi^2 = 32.504$ ;  $df = 20$ ;  $CFI = .956$ ;  $NFI = .887$ ;  $NNFI = .935$ ;  $RMSEA = .058$ . Cronbach's Alpha is .53 for the Swiss sample and .67 for the German sample.

---

<sup>6</sup> The wording of items in this study is slightly different from the variables in the other two studies. The core messages are the same, however.

**Table 3****Cultural Invariance of Process Preferences**

Latent factor	Items	Swiss Sample (n=150)		German Sample (n=163)	
		Factor loadings	Indicator reliabilities	Factor loadings	Indicator reliabilities
	Please answers according to the following scale, to what extend you agree to the following statements.				
Consensus-orientation	Politicians should give consideration to diverging interests when searching for solutions.	.637	.405	.514	.265
	Political solutions are best found by searching for compromises.	.551	.303	.520	.271
Competition	Politicians should be decisive and shouldn't squabble that much.	.649	.421	.822	.676
	Politicians should give hierarchical orders, if a decision has to be taken.	.540	.292	.675	.456
Efficiency	Political problems should be solved as fast as possible.	.431	.186	.389	.152
	Simple and easy-to-understand political solutions are better than complex programs.	.629	.395	.691	.477

Note. Factor loadings and indicator reliabilities (i.e., squared multiple correlations) of the Swiss and German samples.

All factor loadings are significant at the 5 % level

Results clearly indicate that the process preference scales show cultural invariance. Therefore, differences in scores on the items can be meaningful compared across countries. However, although the factor variances are equivalent, the error variances are not, indicating that the indicators might not be equally reliable across constructs (cf. Steenkamp & Baumgartner, 1998, p. 81).

### *Study 3: Test of Invariance Regarding Object of Assessment*

In a third study we tested whether the process preferences scales are invariant regarding the object of assessment. We distinguished between process preferences concerning the executive political branch (i.e., the Swiss government "Bundesrat") and the legislative branch (i.e., the Swiss parliament that consists of "Nationalrat" and "Staenderat"). Data from an independent survey with Swiss citizens (n=530) was used to test the hypothesis that the scales are invariant as regards the object of assessment.

To test this hypothesis we perceived our data as multitrait-multimethod (MTMM) data, with traits being the nine process preference variables (cf. also the model in Figure 1: concede a point, consider diverging interests, compromises, force their points, put their plans through, hierarchical orders, fast decision-making, simple and short processes, avoid delays) and methods being the two different objects of assessment (parliament and government). The conceptualization of our data as MTMM data with methods being the object of assessment is considered to be appropriate, because the logic that underlies the analyses of MTMM data seems applicable for a test of invariance of measurement regarding different objects of assessment. In both cases, the research interest refers to convergent validity, and it is investigated whether different methods (or in this case objects of assessment) or concepts (traits) explain the variance of observed variables. Convergent validity is given, when the variance is explained by traits rather than methods. Hence, if the variance of observed process preference variables is explained by process aspects rather than objects of assessment, this supports our hypothesis that the scales are invariant as regards the two different object of assessment (government and parliament).

To analyze MTMM data literature suggests several models (cf. Marsh & Bailey 1991; Byrne & Goffin, 1993, Lance, Noble, & Scullen, 2007). In this paper we tested our hypothesis of scale invariance with three different models. First we followed the Campbell-Fiske-Model (Campbell & Fiske, 1959) and analyzed the correlation matrix between the variables. Convergent validity is described by scores on the same traits measured by different methods (objects of assessment here). The so called monotrait-heteromethod (MTHM) values are displayed in Table 4 and marked with grey shadows. The correlations are all high and significant at the 1% level.

Although the Campbell-Fiske-Model does support our hypothesis of scale invariance, interpretations based on this model are rather preliminary because the model holds several limitations (Byrne & Goffin, 1993, p. 69). One of them is, that findings derived from the Campbell-Fiske model are used to make inferences regarding the underlying (i.e., latent) traits and methods, although it does rely on observed correlations only. Hence, literature suggests more elaborated tests of measurement invariance using CFA.



**Table 4**  
**Correlation Matrix**

Thus, we also tested our hypothesis as a correlated treat, correlated method (CTCM) model, which provides an explanation of the MTMM matrix in terms of underlying latent constructs and encompasses not only the matrix, but also the parameter level (Byrne & Goffin, 1993, p. 69). Because there are only two method factors (government and parliament), we constrained the measures loading on the same trait factor to have equal factor loadings for identification purposes. Calculating this model did not provide stable solutions, however. Such problems of identification are rather common with CTCM models (Marsh & Bailey

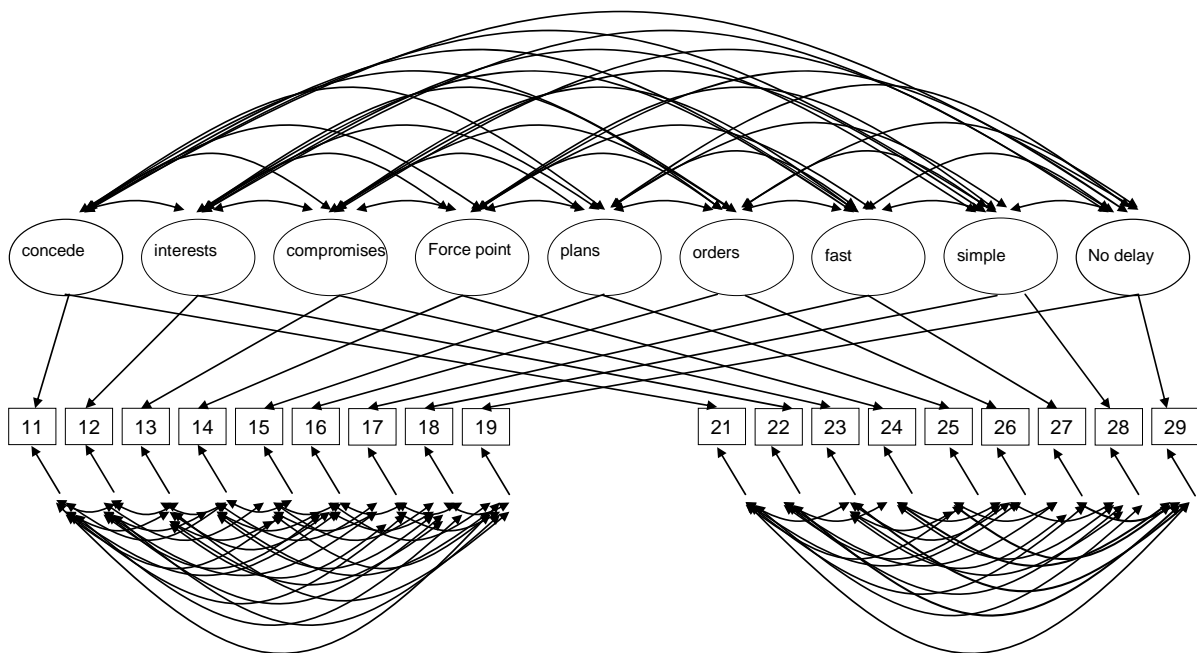
		Correlation Matrix								
Variable		11	12	13	14	15	16	17	18	19
11	gov_concede	1	,426**	,554**	,130**	,127**	,198**	-,100*	-,183**	0
12	gov_div interests	,426**	1	,384**	0	,087*	,179**	0	0	0
13	gov_compromises	,554**	,384**	1	0	0	0	-,106*	-,146**	,106*
14	gov_fast	,130**	0	0	1	,491**	,360**	,269**	,143**	,208**
15	gov_short process	,127**	,087*	0	,491**	1	,326**	,324**	,226**	,378**
16	gov_avoid delays	,198**	,179**	0	,360**	,326**	1	,224**	0	,219**
17	gov_force points	-,100*	0	-,106*	,269**	,324**	,224**	1	,298**	,376**
18	gov_plans through	-,183**	0	-,146**	,143**	,226**	0	,298**	1	,252**
19	gov_orders	0	0	-,106*	,208**	,378**	,219**	,376**	,252**	1
21	parl_concede	,603**	,399**	,388**	,126**	,202**	,183**	0	0	0
22	parl_div interests	,293**	,532**	,242**	0	0	,143**	0	0	0
23	parl_compromises	,488**	,425**	,635**	0	0	,100*	0	-,115**	-,093*
24	parl_fast	,130**	0	0	,637**	,541**	,446**	,268**	,111*	,277**
25	parl_short process	,107*	,142**	0	,515**	,646**	,349**	,329**	,197**	,298**
26	parl_avoid delays	,142**	,121**	,095*	,424**	,355**	,611**	,199**	0	,219**
27	parl_force points	0	0	0	,192**	,267**	,152**	,389**	,223**	,193**
28	parl_plans through	-,101*	-,112*	-,128**	,181**	,165**	,091*	,235**	,573**	,220**
29	parl_orders	0	0	0	-,135**	,250**	0	,186**	,251**	,541**

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

1991). Thus, we do not go into the detail of analysis here. If the CTCM model fails to converge to a stable solution, the Correlated-Uniqueness Model (CU) is the most prominent alternative model suggested by the literature (Byrne & Goffin, 1993; Lance, Noble, & Scullen, 2002; Marsh, Byrne, & Craven, 1992).

Building upon the early work of Kenny (1976) in addressing the problem of ill-defined solutions in the CTCM model, Marsh (1988) proposed an alternative CFA approach to MTMM analyses that allows method effects to be represented by correlated error/uniqueness terms (i.e., error covariances); he termed this parameterization the "correlated uniqueness model" (CU). Figure 2 presents the CU Model used to test our hypothesis. Error covariances representing the same method were freely estimated. Again, we constrained the measures loading on the same trait factor to have equal factor loadings for identification purposes (Kenny, 1992, p. 169).

**Figure 2**  
**Correlated Uniqueness Model of Process Preferences With Regard to Different Institutions**



The CU model fitted the data well ( $\chi^2 = 62.721$ ;  $df = 36$ ;  $CFI = .991$ ;  $NFI = .980$ ;  $NNFI = .963$ ;  $RMSEA = .036$ .) The results of the analysis are summarized in Table 5. The trait-factor loadings for the CU model were strong ( $M = .77$ ) and all loadings were statistically significant. Each of the correlated uniqueness represents the correlation between two variables sharing the same method after removing trait effects (Marsh & Bailey 1991, p. 66). The results suggest good convergent validity and lend support to the hypothesis that the proposed process preferences scales are invariant as regards the object of assessment, i.e., parliament and government.

**Table 5. Results for the Correlated Uniqueness Model**

		Unique variance and covariance								
		Factor loadings								
Variable		1	2	3	4	5	6	7	8	9
11	gov_concede	.843*								
12	gov_div interests		.889*							
13	gov_compromises			.834*						
14	gov_fast				.815*					
15	gov_short process					.785*				
16	gov_avoid delays						.818*			
17	gov_force points							.580*		
18	gov_plans through								.739*	
19	gov_orders									.779*
21	parl_concede	.730*								
22	parl_div interests		.642*							
23	parl_compromises			.731*						
24	parl_fast				.815*					
25	parl_short process					.827*				
26	parl_avoid delays						.815*			
27	parl_force points							.679*		
28	parl_plans through								.775*	
29	parl_orders									.712*
		Factor variances and covariances								
1	concede	1.000								
2	div interests	.553*	1.000							
3	compromises	.763*	.618*	1.000						
4	fast	.200*	.101	.036	1.000					
5	short process	.209*	.147*	.026	.823*	1.000				
6	avoid delays	.288*	.217*	.139*	.717*	.612*	1.000			
7	force points	-.006	.071	-.055	.436*	.590*	.356*	1.000		
8	plans through	-.121*	-.135	-.204*	.277*	.346*	.158*	.478*	1.000	
9	orders	-.046	-.082	-.121	.326*	.438*	.286*	.419*	.417*	1.000

Variable	11	12	13	14	15	16	17	18	19
11 gov_concede	.321*								
12 gov_div interests	-.023	.202*							
13 gov_compromises	.025	-.037	.312*						
14 gov_fast	.001	-.030	-.040	.427*					
15 gov_short process	-.025	-.041	-.015	-.023	.817*				
16 gov_avoid delays	.033	.000	.003	-.049	-.061	.278*			
17 gov_force points	-.101*	-.017	-.073	.052	.030	.070	1.379*		
18 gov_plans through	-.102	.055*	-.019	-.006	.167*	-.002	.223*	1.234*	
19 gov_orders	.088	-.010	-.019	-.001	.199	.071	.418*	.074	1.16*
	21	22	23	24	25	26	27	28	29
21 parl_concede	.688*								
22 parl_div interests	.241*	1.087*							
23 parl_compromises	.189*	.277*	.618*						
24 parl_fast	.014	.065	.048	.426*					
25 parl_short process	.101*	-.014	.053	.193	.603*				
26 parl_avoid delays	-.003	.040	-.040	.144*	.105	.284*			
27 parl_force points	-.056	-.015	-.027	-.005*	.011	-.041	.819*		
28 parl_plans through	-.123*	-.147*	-.108*	-.046	-.040	.014	.336*	.992*	
29 parl_orders	.066	.145	.023	.032	-.012*	-.026	.141	.057	1.737*

Note. Values of 1.00 are fixed a priori; \* p <.05.

## ***Discussion***

The aim of this paper is to report the development and validation of a standardized scale for the measurement of citizens' preferences concerning processes of political decision-making. Whereas there are measurements for policy preferences in previous research, there is no standardized scale for the measurement of citizens' process preferences. Recent research building on discrepancy theory from cognitive psychology suggests that process preferences are a relevant predictor of the level of confidence citizens have in political institutions. Hence, data on process preferences could contribute to the investigation of political attitude formation.

The paper presented the development and validation of items measuring citizens' process preferences. Based on a broad literature review three dimensions of process preferences were derived: consensus-orientation, competition and efficiency. A theory-driven correlated factors model was tested on two independent samples using CFA. Whereas the first sample did indicate modification on the model, the second sample was used to validate the modified model. Further comparisons with alternative models did indicate that the model is superior to a one-factorial model, which underlines discriminant validity. The process preference scales encompass three dimensions with several indicators each: consensus-orientation (concede a point, consider diverging interests, compromises), competition (force their points, put their plans through, hierarchical orders), and efficiency (fast decision-making, simple and short processes, avoid delays). Further studies confirmed the cultural equivalence of the scales and their invariance as regards two different objects of assessment (parliament, government).

This study provides first empirical evidence for the concept of process preferences, but it also has several limitations. We tested the invariance of the scales for preferences regarding parliament and government, but findings from this study might not hold for other objects of assessment, such as the political administrative sector, or individual political actors. Furthermore, testing the cultural invariance of the scale with data that encompasses all nine variables and data from other countries would enhance the empirical validation of the scales' measurement invariance across different cultures. Moreover, the results might not be generalizable to other samples. We used samples that aren't representative for the Swiss or German citizens. Although this is not considered to be problematic for the purpose of scale development and validation, we have to bear in mind that the data presented in this paper stems from samples that are characterized by a high level of political interest and high levels of formal education. Because preferences are based on knowledge and information (Druckman & Lupia, 2000), it seems plausible to assume that preferences concerning

political processes might not be as diverse or be characterized by a different conceptual structure for individuals with low knowledge about politics or no interest in politics. Thus, testing the proposed scales on data that stems from samples with participants that are in average only moderately or not interested in politics, as well as tests with data from individuals with low formal education, are ultimately needed.

The scales presented here are a first attempt to develop a standardized measurement of process preferences. The developed scales were successfully validated on another independent sample, and further tested for cultural invariance and equivalence as regards the object of assessment. A number of applications of the multi-dimensional scale are possible. It might contribute to research on political attitude formation, as it allows investigating what role the relationship between reality perceptions and individual preferences plays in explaining confidence levels. Drawing on discrepancy theory, one would expect that higher levels of political confidence are more likely, if perceived aspects of political processes are in line with individual process preferences. Lower levels of political support are more likely, if perceived aspects of political processes are contrary to what a person does prefer. Further research could address this question by including items of the process preference scales in surveys on political confidence.

## References

- Bensaou, M., Coyne, M., & Venkatraman, N. (1999). Testing the metric Equivalence in Cross-national strategy research: An Empirical Test Across the United States and Japan. *Strategic Management Journal*, 20, 671–689.
- Bentler, P. M. (2006). *EQS 6 Structural Equations Program Manual*. Encino, CA.: Multivariate Software, Inc.
- Bollen, K. A. (1989). *Structural Equations with Latent Variables*. Wiley, New York.
- Boyle, G. J. (1991). Does Item Homogeneity indicate internal Consistency or Item Redundancy in Psychometric Scales? *Personality and Individual Differences*, 12(3), 291-294.
- Byrne, B.M., & Goffin, G.D. (1993). Modelling MTMM Data from Additive and Multiplicative Covariance Structures: An Audit of Construct Validity Concordance. *Multivariate Behavioral Research*, 28(1), 67 — 96.
- Campbell, D.T., & Fiske, D.W. (1959). Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. *Psychological Bulletin*, 56, 81-105.
- De Mesquita, B. B., & McDermott, R. (2004). Crossing No Man's land: Cooperation From the Tranches. *Political Psychology*, 25(4), 271-287
- Druckman, J.N., & Lupia, A. (2000). Preference Formation. *Annual Review of Political Science*, x(3), 1-24.
- Elster, J. (1989). *The Cement of Society: A study of social order*. Cambridge: Cambridge University Verlag.
- Fuchs, D. (1993). Eine Metatheorie des demokratischen Prozesses. *Discussion Papers FS III 93-202. Wissenschaftszentrum Berlin für Sozialforschung (WZB)*.
- Hibbing, J. R., & Theiss-Morse, E. (2001a). Process Preferences and American Politics: What People Want Government to Be. *American Political Science Review*, 95(1), 145-153.
- Hibbing, J. R., & Theiss-Morse, E. (2001b). *What Would Improve American's Attitudes Towards Their Government?* Paper presented at the Conference on Trust in Government, Princeton University.
- Hibbing, J. R., & Theiss-Morse, E. (2002). *Stealth Democracy: American's Belief about How Government Should Work*. New York: Cambridge University Press.
- Kaase, M., & Newton, K. (1995). Citizens and the State. In M. Kaase & K. Newton (Eds.), *Beliefs in Government* (pp. 130-149). Oxford University Press.
- Kaina, V. (2004). Vertrauen in Eliten und die politische Unterstützung der Demokratie. *Politische Vierteljahresschrift*, 45(4), 519-540.
- Kenny, D. A. (1976). An empirical application of confirmatory factor analysis to the multitraitmultimethod matrix. *Journal of Experimental Social Psychology*, 12, 247-252.
- Kenny, D.A., & Kashy, D.A. (1992). Analysis of the Multitrait-Multimethod Matrix by Confirmatory Factor Analysis. *Psychological Bulletin*, 112 (1), 165-172.
- Kimball, D. C., & Patterson, S. C. (1997). Living Up to Expectations: Public Attitudes toward Congress. *The Journal of Politics*, 59(3), 701-728.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modelin* (2nd ed.). New York, London: The Guilford Press.
- Lance, C.E., Noble, C.E., & Scullen, S.E. (2007). A Critique of the Correlated Trait–Correlated Method and Correlated Uniqueness Models for Multitrait–Multimethod Data. *Psychological Methods*, 7(2), 228–244.
- Linder, W., & Steffen, I. (2006). Politische Kultur. In U. Klöti, P. Knoepfel, H. Kriesi, W. Linder, Y. Papadopoulos & P. Sciarini (Eds.), *Handbuch der Schweizer Politik* (pp. 15-34). Zürich: Verlag NZZ.
- Little, T.D. (1997). Mean and Covariance Structures (MACS) Analyses of Cross-Cultural Data: Practical and Theoretical Issues. *Multivariate Behavioral Research*, 32, 53-76.
- Mardia, K.V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57(2), 519-530.

- Mardia, K.V. (1974). Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. *Sankhya B*, 36(2), 115-128.
- Marsh, H. W. (1988). Multitrait-multimethod analyses. In J. P. Keeves (Ed.), *Educational research methodology, measurement and evaluation: An international handbook*. Oxford: Pergamon Press.
- Marsh, H.W., & Bailey, M. (1991). Confirmatory Factor Analyses of Multitrait-Multimethod Data: A Comparison of Alternative Models. *Applied Psychological Measurement*, 15, 47-70.
- Marsh, H.W., Byrne, B.M., & Craven, R. (1992). Overcoming Problems in Confirmatory Factor Analyses of MTMM Data: The Correlated Uniqueness Model and Factorial Invariance. *Multivariate Behavioral Research*, 27(4), 489 — 507.
- Matthes, J., Wirth, W., & Schemer, C. (2007). Measuring the Unmeasurable? Toward Operationalizing On-line and Memory-Based Political Judgments in Surveys. *International Journal of Public Opinion Research*, 19(2), 247-257.
- Noar, S. M. (2003). The Role of Structural Equation Modeling in Scale Development. *Structural Equation Modeling*, 10(4), 622-647.
- Patterson, S. C., Boynton, G. R., & Hedlund, R. D. (1969). Perceptions and Expectations of the Legislature and Support for It. *The American Journal of Sociology*, 75(1), 62-76.
- Steenkamp, J.E.M, & Baumgartner, H (1998): Assessing Measurement Invariance in Cross-National Consumer Research. *The Journal of Consumer Research*, 25(1), 78-90.
- Thibaut, J., & Walker, J. (1975). *Procedural Justice: A Psychological analysis*. Hillsdale, NJ: Erlbaum.
- Tyler, T. (2000). *Cooperation in Groups: Procedural Justice, Social Identity, and Behavioral Engagement*. Philadelphia, PA: Psychology Press.
- Tyler, T., Degoe, P., & Smith, H. (1996). Understanding Why the Justice of Group Procedures Matters: A Test of the Psychological Dynamics of the Group-Value Model. *Journal of Personality and Social Psychology*, 70(5), 913-930.
- Weatherford, S. M. (1992). Measuring Political Legitimacy. *The American Political Science Review*, 86(1), 149-166.
- West, S.G., Finch, J.F., & Curran, P.J. (1995). Structural Equation Modeling with nonnormal variables. Problems and remedies. In R.H. Hoyle (Ed.), *Structural Equation Modeling: Concepts, Issues, Applications* (pp. 56-75). Thousand Oaks, CA: Sage.
- Yuan, K.-H., Lambert, P.L., & Fouladi, R.T. (2004). Mardia's Multivariate Kurtosis with Missing Data. *Multivariate Behavioral Research*, 39(3), 413-437.