Development and Validation of the Perceived Societal Marginalization Scale

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Abstract

Current societal conflicts are characterized by identity struggles and discontent concerning globalization and modernization. While the literature identifies several psychological determinants of this discontent, systematic measurement approaches based on well-defined constructs are rare. Here, we present the development and validation of the Perceived Societal Marginalization (PSM) scale, which aims to assess individual differences in people's subjective perceptions of the insignificance and lack of recognition of their own social groups in the domains of economy, culture, and politics. We first provide a definition of PSM and a conceptual analysis of its components based on (a) a top-down review of relevant psychological, sociological and political science theories and (b) a bottom-up approach involving semi-structured group interviews with various German citizen associations followed by a qualitative content analysis. We then present the results of a psychometric validation of the PSM scale (factor structure, reliability) based on three large online surveys with heterogeneous samples (total $N = 2,566$) and explore sociodemographic, personality, and attitudinal correlates. The discussion focuses on applications of the PSM scale, that is, the role of PSM in explaining societal cleavages as well as threat perceptions towards and rejection of cultural, ethnic, and religious minorities.

Key words: Perceived Societal Marginalization; scale validation; political attitudes; ideology; societal cleavages

Brexit, the election of Donald Trump, and the rise of far-right populist parties across Europe indicate a social cleavage characterized by social identity struggles and societal discontent (Inglehart & Norris, 2016; Raines et al., 2017). In the face of globalization and modernization, some perceive a loss of status and a depreciation of their own social group (Branscombe et al., 1993; Goodhart, 2017). Potential negative consequences of this include resistance to immigration (Esses et al., 2017; Stewart et al., 2019), to supranationalism (McLaren, 2002; Peitz et al., 2018) and to international financial solidarity (Raines et al., 2017). Therefore, it is crucial to understand the nature of perceived collective unimportance and lack of recognition.

While several conceptualizations of perceived societal disadvantage exist (e.g., disintegration, relative deprivation, and marginalization), there is no construct and measurement approach specifically focusing on the perceived lack of recognition and unimportance of one's own social group (Berry, 1997; Issmer & Wagner, 2015; Runciman, 1966; Smith et al., 2012). These perceptions are often discussed as determinants of societal discontent (e.g., Inglehart & Norris, 2016) and collective political action (e.g., Jetten et al., 2001). Furthermore, most existing constructs focus only on specific societal content areas and minority groups (e.g., te Riele, 2006). Finally, comprehensive measurement approaches (i.e., a systematic operationalization of well-defined and cross-validated constructs) with sufficiently large samples are rare. Closing this gap in the literature may foster our understanding of societal discontent and its destructive consequences.

In this study, we present the development and validation of the Perceived Societal Marginalization (PSM) scale, which aims at assessing individual differences in the perceived insignificance and lack of recognition of one's own social groups in the domains of economy, culture, and politics. The three methodological cornerstones of this work are (1) a detailed concept definition and operationalization of PSM, (2) item development based on theoretical

considerations, semi-structured group interviews, and empirical item pretesting, and (3) a comprehensive psychometric scale validation (i.e. iterative testing of factor structure, scale reliabilities, and construct validity) based on large samples (total $N = 2,566$).

Perceived Societal Marginalization as a Psychological Construct

Definition of PSM

We define PSM as the subjective and cognitive perception that one's own social group is unappreciated and treated as unimportant by society in the domains of economy, culture, and politics. Below, we flesh out the key defining characteristics of PSM: its subjective and cognitive nature, as well as the target level and societal domains it focuses on.

PSM is a subjective phenomenon that may occur independently of objective marginalization criteria (e.g., socioeconomic status). Thus, PSM may contribute to explaining negative reactions to social change in groups that would not otherwise be perceived as marginalized. Previous studies underline the additional explanatory value of subjective evaluations, such as subjective societal¹ status (e.g., Adler et al., 2000; Manstead, 2018), for explaining a variety of attitudes and behaviors.

Closely related to the subjectivity component is PSM's cognitive nature. Whether or not people identify an abstract societal development (e.g., EU expansion) as a source of in-group devaluation depends on the meaning they attribute to it. Thus, in line with appraisal theory (Scherer et al., 2001), cognitive appraisal is thought to mediate the effects of an abstract societal development on people's corresponding emotions and actions.

We define PSM as an individual difference variable anchored in group-level social identities for two reasons. First, research on constructs related to PSM has consistently shown that collective experiences are a stronger predictor of negative social outcomes than

¹ By using the term 'societal' instead of the original 'social', we seek to emphasize (1) that society as a whole is the relevant reference frame (as opposed to specific in-groups), and (2) that income, education, and occupation represent societal status indicators, as opposed to interpersonal status indicators within smaller social groups, such as "prominence, respect, and influence" (see Anderson, & Kilduff, 2009).

individual experiences (Smith & Ortiz, 2001). Second, societal changes affecting whole groups are more likely to elicit reactions on the group level than changes affecting only single individuals (Jetten et al., 2001). Related to this, a psychological process that precedes PSM is social identification. According to Tajfel and Turner (2004), social identity refers to the part of one's self-concept derived from subjectively belonging to certain social groups. In the context of PSM, social identification therefore determines the social groups that people think of when asked to evaluate a statement about "people like me" (see Table 1). Within and between individuals, both the social groups people identify with and the relative importance or strength of that identification may vary over time (e.g., due to different social contexts making different social identities salient). Consequently, the experience of PSM may also vary depending on which social group an individual identifies with at a given time. However, we expect people's average PSM to be relatively stable over time, since the construct is thought to capture people's overall evaluation of their situation across social identities. Thus, social identification determines who "people like me" are for an individual at a given time, and PSM is the perceived amount of depreciation of these groups by society.

PSM covers the societal domains of the economy, culture, and politics. This content spectrum corresponds to the three most commonly cited – and not mutually exclusive – explanations of societal discontent and support for populist parties: the economy-based 'losers of modernization hypothesis', the culture-based 'cultural backlash hypothesis', and the politics-based 'post-democratization hypothesis' (Inglehart & Norris, 2016; Minkenberg, 2000). These explanations focus on economic insecurity (e.g., a growing income inequality), aversion to cultural change (e.g., equal rights for minorities), and dissatisfaction with democracy (e.g., due to growing political power of international corporations), respectively. Although these phenomena are related (e.g., a person may view the growing political power of transnational companies as a threat to their work place), they are not necessarily

experienced simultaneously. Therefore, we regard the three domains of economy, culture, and politics as related, albeit distinct, dimensions of PSM.

Differentiation from Related Constructs

PSM differs from related constructs in its focus, psychological modality, and content spectrum. Its focus on perceived collective lack of recognition and unimportance distinguishes it from other constructs that focus on resource-related disadvantage, such as relative deprivation (Runciman, 1966). In terms of psychological modality, its subjective and cognitive nature differentiates it from objective measures of marginalization, such as SES (e.g. Manstead, 2018), as well as from more emotional measures, such as threat perception (Stephan et al., 2005; Stephan & Stephan, 2017). Furthermore, PSM is anchored in group-level social identities, as opposed to individual or state-level measures, such as personal relative deprivation (Callan et al., 2008) and political alienation (Calabrese & Adams, 1990). The main difference between PSM and individual-level is the items' reference group. For instance, while in personal relative Deprivation, 'people like me' represents the reference group people are asked to compare themselves to, the PSM items are formulated such that the respondents compare themselves and their social group ("people like me") to all other people (i.e., the society). From a practical point of view, the crucial difference between individual-level constructs and PSM are the expected outcomes. Individual-level isolation is usually negatively associated with subjective well-being (e.g., Garcia et al., 2020), but it is not directly associated with an identification with social groups and, consequently, group-based actions. Based on Social Identity Theory, we argue that PSM is much more likely to elicit group-identification and, potentially, group-level action (e.g., support for political movements). Lastly, its broad content spectrum (i.e., the economy, culture, and politics) distinguishes PSM from domain-specific concepts, such as subjective income poverty.

The Present Research

The objective of this study was to develop and validate the PSM scale. To generate an initial PSM item list, we applied both (a) a top-down approach based on theoretical considerations and (b) a bottom-up approach involving semi-structured group interviews with German citizen associations and empirical item pretesting. Subsequently, we administered the initial PSM scale in two large online surveys and investigated its factor structure, reliability, and nomological network (i.e., sociodemographic, personality, and attitudinal correlates). After we modified the scale based on statistical and content-related criteria, we administered the modified 15-item PSM scale in a further online survey to cross-validate the results.

Initial Item Construction and Selection

Top-Down Approach

Based on theoretical considerations (e.g., Issmer & Wagner, 2015), media content, and expert opinions (e.g., Goodhart, 2017), we identified a list of subcategories for each of the three societal dimensions (i.e., the economy, culture, and politics) as potential sources of PSM. For broader content coverage, we divided the domain of culture into the subdomains “culture and tradition” and “media and public sphere”. Examples of subcategories include people’s employment situation (economy), traditions (culture and tradition), representation in the media (media and public sphere), and political representation (politics). In total, we generated 122 PSM items. The initial item list can be found at <https://osf.io/mu782/> (‘Item Pretesting’).

Bottom-Up Approach

To ensure that the initial PSM items covered relevant topic areas, we conducted six 60-minute semi-structured group interviews with German citizen associations – including a card-playing (skat) club, a women’s group, and a political youth organization – in Münster. In total, 34 subjects (64.70% female) between 16 and 72 years of age ($M_{\text{age}} = 43.5$, $SD_{\text{age}} = 17.9$)

participated after being recruited via various online and offline channels of the press office of the University of Münster. Afterwards, we modified the initial PSM item list based on a qualitative content analysis of the interviews (Mayring, 2015), resulting in 99 items (see <https://osf.io/mu782/> ('Data/Interviews') for anonymized interview transcripts and results of item pretesting). The qualitative content analysis of the six semi-structured group interviews confirmed that all three societal domains are relevant for PSM. For a detailed description of the interview process, please refer to <https://osf.io/mu782/> ('Data/Interviews').

Item Pretesting

To shorten the modified PSM item list and further improve its covered content spectrum, we asked 26 participants (80.77% female) between 19 and 58 years of age ($M_{\text{age}} = 26.92$, $SD_{\text{age}} = 11.83$) to perform an item sorting task with the 99 PSM items as described by Howard and Melloy (2016). The three construct definitions we used referred to PSM, relative deprivation, and perceived threat. We then used the item rankings to select eight items per domain/subdomain (i.e., the economy, culture and tradition, media and public sphere, and politics), resulting in 32 PSM items. This initial PSM item list is available at <https://osf.io/mu782/> ('Data/Item pretesting').

Study 1: Development of the PSM Scale

In this study, we administered the initial PSM scale in two online surveys in order to explore its factor structure and select a final item set. As a foundation for cross-validation in Study 2, we then ran a confirmatory factor analysis (CFA), calculated reliabilities, and explored PSM's nomological network. All analyses and data exclusion criteria were preregistered prior to data analysis. The preregistration ('Preregistrations') can be found at <https://osf.io/zf8mx> (part 1) and <https://osf.io/yek5h> (part 2). All materials, data ('Data'), and statistical code ('Statistical code') can be found at <https://osf.io/mu782/>.

Method

Participants

Participants were recruited via the online platform PsyWeb of the University of Münster and via the research institute respondi, both of which made it possible to sample from a panel with a higher representativeness than convenience student samples. To further improve our sample's representativeness, we recruited participants via Facebook groups hypothesized to vary in terms of sociodemographic variables and political orientation. Our sample size corresponds to the conservative recommendation of obtaining at least 500 participants for factor analysis in order to deal with potentially low communalities and weakly determined factors (Comrey & Lee, 2013). As we expected some participants' data to be invalid due to the exclusion criteria, and in order to provide a statistically powerful first test of the PSM scale, we aimed to oversample considerably by recruiting 2,000 participants. In total, 2,003 subjects completed the 32 PSM items in two online surveys and allowed the use of their data. We excluded 194 participants from further analysis (74 due to non-German citizenship, 49 due to zero variance on the PSM items, and 71 due to an abnormal completion duration, that is, an average of less than five seconds per item). Exclusion due to non-German citizenship allowed us to investigate PSM in the majority society, which serves as an important foundation for later studies focusing on its associations with ethnic outgroup derogation. The final sample consisted of 1,809 participants (55.28% females) between 18 and 85 years of age ($M_{\text{age}} = 45.97$, $SD_{\text{age}} = 15.50$), with 34.77% of participants possessing at least a university degree. Table S1 of the supplement contains all sample characteristics of Study 1 and Study 2 (see 'Supplemental results' at <https://osf.io/mu782/>).

Procedure

In both surveys, we started by asking participants to consent to the data protection regulations, followed by a series of sociodemographic questions. Afterwards, participants

indicated their agreement with each of the 32 PSM items², each scored on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). The survey ended after this and participants were thanked for their participation. In the PsyWeb survey, a series of attitudinal and personality measures followed, which we describe in detail in the next section. After survey completion, the PsyWeb participants had the option to receive personalized feedback on their right-wing authoritarianism (RWA) and social dominance orientation (SDO) scores, as well as to participate in a lottery to receive a 25 Euro online voucher.

Measures

Here, we describe only the measurements relevant for the present study. For a complete overview of the items administered in the survey, see <https://osf.io/mu782/> ('Complete Surveys').

Sociodemographic measures. We assessed participants' gender, age, marital status, educational level (from 1 = no high school diploma to 10 = doctoral degree), occupational status, citizenship, monthly net income (from 1 = less than 500 Euro to 7 = more than 4,000 Euro), religion, religiosity (from 1 = not at all religious to 7 = very religious), and population of place of residence (from 1 = less than 5,000 inhabitants to 7 = more than 500,000 inhabitants).

Ideology. We assessed RWA with a nine-item authoritarianism short scale (KSA-3; Beierlein et al., 2014; e.g., "*We should take strong action against misfits and slackers in society.*"). All items were scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) and aggregated into one mean RWA score ($\alpha = .84$). We measured SDO with a four-item short scale (Pratto et al., 2013; e.g., "*We should not push for group equality.*"). All items were scored on a 10-point Likert scale from 1 (strongly disagree) to 10 (strongly agree) and aggregated into a single mean SDO score ($\alpha = .49$).

² In addition, we administered eight general PSM items, which are not discussed here.

Personal relative deprivation. To assess personal relative deprivation, we translated Callan et al.'s (2008) four-item measure into German (e.g., "*When I think about what I have compared to others, I feel disadvantaged*"). All items were scored on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree) and aggregated into a single mean score for personal relative deprivation ($\alpha = .67$).

Subjective social status. We assessed subjective social status with the MacArthur Scale of Subjective Social Status, translated into German (SSS; Adler et al., 2000). Participants were asked to rank themselves on a 10-rung social ladder – with 1 representing the lowest and 10 the highest SSS – considering their income, educational level, and occupational status in comparison to all others in their society.

Subjective social support. We measured subjective social support with an 8-item Likert scale (Schwarzer & Schulz, 2000) scored from 1 (not true) to 4 (exactly true). Half of the items measured subjective emotional support (e.g., "*There are people who really like me*"), while the other half assessed subjective instrumental support (e.g., "*There are people who offer me their help when I need it*"). For both types, we aggregated the corresponding items into mean scores ($\alpha = .88$ for subjective emotional support and $\alpha = .90$ for subjective instrumental support).

General trust. We assessed general trust by asking participants to indicate to what extent they trust other people in general on a scale from 1 (you cannot be cautious enough) to 10 (you can trust most people; GESIS – Leibniz-Institut für Sozialwissenschaften, 2017).

Internal locus of control. We measured internal locus of control with a four-item Likert scale (Kovaleva et al., 2012) scored from 1 (strongly disagree) to 5 (strongly agree). After reverse-coding two items, we aggregated the four items into one mean score ($\alpha = .71$).

Left-right ideology. To assess left-right ideology, we asked participants to position themselves on three separate 9-point scales – corresponding to social, economic, and general issues – scored from 1 (extreme left) to 9 (extreme right; Imhoff & Bruder, 2014).

Political party preference. To measure political party preference we asked subjects to indicate the extent to which they could imagine voting for each of the following German parties on a 10-point Likert scale from 1 (cannot imagine at all) to 10 (can imagine very well): CDU/CSU, SPD, the Green Party, the Left Party, FDP, and AfD (Sheets et al., 2015).

Satisfaction with democracy. We assessed satisfaction with democracy in Germany and the EU with two items on five-point Likert scales scored from 1 (not satisfied at all) to 5 (very satisfied; European Social Survey, 2013).

Threat perception. We measured realistic, symbolic, and safety threat with a nine-item Likert scale scored from 1 (strongly disagree) to 5 (strongly agree) presented by Landmann et al. (2019). The items were aggregated into mean scores for symbolic threat ($\alpha = .87$; e.g., “*Immigration by refugees affects German culture*”), realistic threat ($\alpha = .88$; e.g., “*Refugees living here threaten the economic situation in Germany*”), and safety threat ($\alpha = .94$; e.g., “*The refugees who live here threaten the security in Germany*”).

Results

Exploratory Factor Analysis (EFA) and item selection

Our goal was to retain five items per factor in an iterative item selection process³. In the first iteration, we conducted a parallel analysis with the ‘psych’ package in R to determine the number of factors to extract, applying the 95th percentile of eigenvalues as a threshold (Horn, 1965). In light of the expected right-skewness of the PSM items, we used principal axis factoring (PAF) to extract the a priori determined number of factors (Costello &

³ To account for potential sampling bias, we conducted the EFA separately for the two subsamples (i.e., the sample recruited via PsyWeb and the sample recruited via the research institute respondi), as well as for the total sample. The final selected item set was identical in all analyses.

Osborne, 2005). Based on conceptual considerations, we applied a direct oblimin rotation to obtain a simpler solution and allow for correlated factors. Subsequently, we investigated the PSM's factor structure and individual items.

After each EFA iteration, we ensured that each factor was interpretable and had at least five items with standardized factor loadings $\geq .50$. If these conditions were not met, we repeated the procedure with one fewer factor. Otherwise, we dropped items based on both empirical (i.e., standardized factor loadings) and content-based (i.e., language variability) criteria. After deletion of low- ($< .50$) and cross-loading ($\geq .32$) items, we repeated the described EFA procedure. The final EFA iteration and a parallel analysis with the 15 PSM items suggested a three-factor model. Table 1 presents descriptive information on the items as well as the EFA and CFA results for the PSM items in Study 1 and Study 2. Complete results for all intermediate EFA steps and the results of a parallel analysis (see Figure S1) are available at <https://osf.io/mu782/> ('Supplemental results').

Confirmatory Factor Analysis

Following the item selection procedure, we analyzed the factor structure of the final PSM scale. Specifically, using maximum likelihood CFA, we evaluated and compared the fit of four different models for the PSM items: (1) a one-factor model, (2) a three-factor model with uncorrelated factors, (3) a second-order three-factor model with one general factor, and (4) a bifactor model with one general and three specific factors. To assess model fit, we used the following goodness-of-fit indices: (a) the root mean square error of approximation (RMSEA), (b) the comparative fit index (CFI), and (c) the standardized root mean square residual (SRMR). We applied the following thresholds to indicate an acceptable model fit: $RMSEA \leq .08$, $CFI \geq .90$, and $SRMR \leq .08$ (Hu & Bentler, 1999). For model comparison, we regarded the model with the lowest Akaike information criterion (AIC) as the best model.

Both the second-order three-factor model ($\chi^2(87) = 539.25$; $RMSEA = .054$; $CFI = .980$; $SRMR = .031$; $AIC = 55,104$) and the bifactor model ($\chi^2(75) = 288.59$; $RMSEA = .040$; $CFI = .990$; $SRMR = .012$; $AIC = 54,907$) showed good fit (see Figure 1). These models' AICs were considerably lower compared to the one-factor model ($AIC = 59,746$) and the three-factor model with uncorrelated factors ($AIC = 57,510$), with the bifactor model showing the best fit. Results of the second-order three-factor model and the bifactor model are summarized in Table 1 and Figure 1.

Table 1*Descriptive Statistics and Standardized Factor Loadings for the PSM Items*

Item	Item wording	Mean	SD	Skew	Kurtosis	Loadings second-order model			Loadings bifactor model			
						Economy	Culture	Politics	Economy	Culture	Politics	General
psm1	The work of people like me is not valued enough by society.	3.52/ 3.80	1.51/ 1.43	0.03/ -0.12	-1.00/ -0.79	0.76 (0.02) / 0.67 (0.04)			0.41 (0.02) / 0.55 (0.06)			0.64 (0.02) / 0.46 (0.06)
psm4	People like me do not get enough recognition for their work.	3.70/ 4.11	1.57/ 1.46	-0.09/ -0.40	-1.11/ -0.69	0.86 (0.02) / 0.81 (0.04)			0.56 (0.02) / 0.57 (0.05)			0.69 (0.02) / 0.61 (0.05)
psm7	No matter how hard we work, people like me are not appreciated.	3.54/ 4.10	1.61/ 1.48	0.01/ -0.36	-1.18/ -0.83	0.88 (0.02) / 0.89 (0.04)			0.43 (0.02) / 0.38 (0.05)			0.77 (0.02) / 0.80 (0.05)
psm10	The work of people like me is not recognized enough in society.	3.49/ 3.98	1.53/ 1.41	0.04/ -0.25	-1.05/ -0.81	0.89 (0.02) / 0.90 (0.04)			0.45 (0.02) / 0.51 (0.05)			0.76 (0.02) / 0.74 (0.05)
psm13	The job situation of people like me receives too little attention in society.	3.54/ 3.83	1.58/ 1.49	0.00/ -0.23	-1.10/ -0.84	0.73 (0.02) / 0.79 (0.04)			0.29 (0.03) / 0.37 (0.05)			0.67 (0.02) / 0.69 (0.05)
psm2	The cultural interests of people like me are given too little consideration in society.	3.18/ 3.03	1.42/ 1.34	0.25/ 0.37	-0.77/ -0.45		0.75 (0.02) / 0.45 (0.03)			0.24 (0.02) / 0.17 (0.06)		0.70 (0.02) / 0.40 (0.05)
psm5	The values of people like me are becoming less and less important in society.	3.55/ 4.13	1.55/ 1.40	-0.03/ -0.40	-1.09/ -0.72		0.81 (0.02) / 0.71 (0.04)			0.32 (0.02) / 0.18 (0.05)		0.73 (0.02) / 0.70 (0.05)
psm8	It is not important to society to maintain the traditions of people like me.	3.33/ 3.64	1.52/ 1.47	0.20/ -0.03	-0.95/ -0.85		0.82 (0.02) / 0.85 (0.05)			0.53 (0.02) / 0.50 (0.07)		0.66 (0.02) / 0.68 (0.05)
psm11	The customs, traditions and manners of people like me are less and less appreciated.	3.33/ 3.64	1.57/ 1.49	0.17/ -0.06	-1.07/ -0.90		0.84 (0.02) / 0.79 (0.04)			0.58 (0.02) / 0.68 (0.08)		0.66 (0.02) / 0.57 (0.05)
psm14	People like me are no longer allowed to express their opinions freely in public.	2.62/ 2.96	1.74/ 1.76	0.71/ 0.41	-0.88/ -1.21		0.65 (0.02) / 0.52 (0.04)			0.26 (0.03) / 0.23 (0.07)		0.59 (0.02) / 0.47 (0.07)
psm3	Most politicians do not care what people like me think.	4.17/ 4.66	1.55/ 1.36	-0.42/ -0.79	-0.95/ -0.28			0.79 (0.02) / 0.80 (0.04)			0.46 (0.02) / 0.52 (0.05)	0.65 (0.02) / 0.62 (0.05)
psm6	The problems of people like me are unimportant to most politicians.	4.18/ 4.70	1.52/ 1.33	-0.38/ -0.77	-1.00/ -0.38			0.92 (0.02) / 0.91 (0.04)			0.52 (0.02) / 0.56 (0.04)	0.76 (0.02) / 0.72 (0.05)
psm9	The concerns of people like me are not noticed by politicians.	4.12/ 4.59	1.52/ 1.36	-0.35/ -0.73	-1.00/ -0.35			0.91 (0.02) / 0.93 (0.04)			0.51 (0.02) / 0.51 (0.04)	0.75 (0.02) / 0.77 (0.05)
psm12	The problems of people like me are not heard by most politicians.	4.08/ 4.52	1.54/ 1.34	-0.33/ -0.59	-1.04/ -0.58			0.92 (0.02) / 0.92 (0.04)			0.49 (0.02) / 0.52 (0.04)	0.78 (0.02) / 0.75 (0.05)
psm15	Politics pays too little attention to the interests of people like me.	4.11/ 4.50	1.54/ 1.38	-0.37/ -0.52	-0.99/ -0.75			0.89 (0.02) / 0.90 (0.04)			0.45 (0.02) / 0.49 (0.04)	0.76 (0.02) / 0.75 (0.05)

Note. The top and bottom line of each cell pertain to Study 1 and Study 2, respectively. Standard errors are reported in parentheses. PSM = Perceived

Societal Marginalization. The original item wording in German is presented in Table S5 in ‘Supplemental results’ on <https://osf.io/mu782/>

Figure 1*Graphical Representation of Second-Order Model and Bifactor Model for PSM*

Note. Panel A: Second-order three-factor model for perceived societal marginalization (PSM). The top and bottom lines of standardized factor loadings and standard errors (in parentheses) pertain to Study 1 and Study 2, respectively. $\chi^2(87) = 539.25/427.16$, $RMSEA = .054/.072$, $CFI = .980/.961$, $SRMR = .031/.051$. Panel B: Bifactor model for PSM. The standardized factor loadings and standard errors left and right of the slash (“/”) pertain to Study 1 and Study 2, respectively. $\chi^2(75) = 288.59/233.97$, $RMSEA = .040/.053$, $CFI = .990/.982$, $SRMR = .012/.030$.

With respect to PSM's internal consistency, we considered values of $\alpha \geq .70$ as acceptable, and applied the same threshold for the factor reliability omega (ω_h). Table 2 shows the satisfactory internal consistency and reliability as well as descriptive statistics and intercorrelations for the PSM scales.

Table 2

Manifest PSM Scale Descriptive Statistics, Reliability Values, and Correlations

Scale	Descriptive Statistics				Reliability		Correlations			Mean PSM
	Mean	SD	Min	Max	α	ω_h	Econ	Cult	Poli	
Econ	3.56/ 3.96	1.34/ 1.24	1.00/ 1.00	6.00/ 6.00	.91/ .91	.91/ .91	-	.61 [.56, .65]	.59 [.55, .64]	.86 [.84, .88]
Cult	3.20/ 3.48	1.28/ 1.10	1.00/ 1.00	6.00/ 6.00	.88/ .79	.88/ .80	.57 [.52, .61]	-	.62 [.57, .66]	.85 [.83, .87]
Poli	4.13/ 4.60	1.39/ 1.24	1.00/ 1.00	6.00/ 6.00	.95/ .95	.95/ .95	.61 [.57, .65]	.60 [.56, .65]	-	.86 [.84, .88]
Mean PSM	3.63/ 4.01	1.18/ 1.02	1.00/ 1.13	6.00/ 6.00	.95/ .93	.95/ .86	.85 [.83, .87]	.83 [.81, .85]	.88 [.86, .89]	-

Note. Econ = Economy. Cult = Culture. Poli = Politics. Mean PSM = mean of the fifteen

PSM items. The top and bottom lines of each cell in the descriptive statistics section correspond to Study 1 and Study 2, respectively. Min and max stand for minimum and maximum, respectively. The lower and upper triangular correlation matrices contain the values pertaining to Study 1 and 2, respectively.

Table 3 provides an overview of the initial exploration of PSM's correlates. Across PSM domains, individuals with higher PSM scores felt more deprived, had a lower subjective status, indicated less social support and trust in others, and felt that their life is out of their control. All associations were small to moderate, indicating that PSM is associated with these conceptually related constructs in meaningful ways but is at the same time far from

redundant. Moreover, individuals with stronger PSM had a more authoritarian and social dominance-oriented ideology, were less satisfied with the state of democracy, perceived immigrants as a greater threat, preferred conservative right-wing political parties (particularly the AfD) and opposed progressive left-wing political parties (particularly the Green party). These effects were particularly pronounced for cultural PSM. While similar correlation patterns across PSM domains indicated a considerable overlap of the three PSM facets – which is in line with theoretical considerations (i.e., due to the interdependence of economic, cultural, and political developments in society) – several measures (i.e., age, monthly net income, religiosity, right-wing attitudes, and preference for the Left Party and the AfD) were differentially correlated across PSM domains. This highlights the importance of distinguishing between the domains. For instance, income negatively predicted PSM, but only in the economic and political domains. In addition, there was also some indication of higher values for older, more religious, and male individuals in the cultural domain. Lastly, preference for the Left Party was only significantly predicted by cultural PSM.

Table 3*Nomological Network of PSM*

Variable	Mean (SD)	ePSM	cPSM	pPSM	mPSM
Sociodemographics					
Age	45.97 (15.50) / 48.67 (15.72)	.06/.02	.15/.16	.10/.17	.12/.14
Gender (female)	.5549 / .5125 (proportion)	.01/.06	-.11/-.02	-.01/-.06	-.04/-.01
Educational level	6.29 (2.26) / 5.03 (2.14)	-.34/-.16	-.31/-.22	-.33/-.24	-.37/-.24
Monthly net income	4.25 (2.05) / 4.02 (1.95)	-.14/-.10	.00/-.06	-.10/-.07	-.09/-.09
Religiosity	2.70 (1.77) / 2.73 (1.72)	.02/-.03	.10/.08	-.03/-.09	.03/-.02
Population of place of residence	3.95 (2.11) / 3.56 (2.10)	-.09/-.08	-.10/-.08	-.12/-.12	-.12/-.11
Social Integration					
Personal relative deprivation	2.57 (0.99) / 3.32 (1.00)	.39/.37	.25/.32	.33/.33	.38/.40
Subjective societal status	6.38 (1.58) / 5.52 (1.67)	-.35/-.27	-.24/-.25	-.34/-.29	-.37/-.32
Subjective social class ^a	- / 2.66 (0.81)	-/- .24	-/- .25	-/- .26	-/- .29
Emotional support	3.60 (0.58) / 3.46 (0.67)	-.16/-.12	-.17/-.12	-.10/-.05	-.17/-.11
Instrumental support	3.49 (0.67) / 3.39 (0.73)	-.18/-.14	-.20/-.13	-.14/-.08	-.20/-.13
General trust	6.46 (2.23) / 5.19 (2.37)	-.27/-.26	-.30/-.29	-.30/-.28	-.34/-.32
Locus of control	3.76 (0.74) / 3.58 (0.73)	-.31/-.30	-.24/-.26	-.23/-.20	-.30/-.29
Ideology and Attitudes					
Right-wing authoritarianism	2.22 (0.74) / 3.10 (0.77)	.28/.26	.43/.44	.28/.34	.38/.40
Social dominance orientation ^b	4.70 (1.56) / 2.98 (1.22)	.10/.11	.25/.27	.12/.14	.18/.20

Right-wing attitude social issues	3.85 (1.40) / 4.71 (1.36)	.10/.07	.34/.25	.10/.15	.20/.18
Right-wing attitude economic issues	4.18 (1.44) / 4.75 (1.22)	.05/.00	.21/.17	.05/.07	.12/.09
Right-wing attitude general	4.05 (1.35) / 4.80 (1.31)	.12/.03	.36/.24	.12/.16	.23/.16
Satisfaction w. democracy in Germany	3.24 (1.09) / 2.84 (1.14)	-.30/-.33	-.38/-.38	-.51/-.50	-.47/-.47
Satisfaction w. democracy in Europe	2.66 (1.05) / 2.51 (1.03)	-.27/-.26	-.40/-.35	-.47/-.47	-.44/-.42
Realistic threat	2.23 (1.10) / 3.25 (1.23)	.25/.29	.48/.43	.33/.45	.41/.45
Symbolic threat	2.27 (1.11) / 3.07 (1.22)	.27/.22	.54/.41	.33/.41	.44/.40
Safety threat	2.48 (1.24) / 3.38 (1.31)	.23/.25	.49/.40	.30/.43	.39/.42
Preference for Left Party	4.78 (3.13) / 3.92 (3.01)	.05/.05	-.21/-.12	.02/-.05	-.05/-.04
Preference for SPD	4.25 (2.76) / 4.10 (2.87)	-.15/-.14	-.25/-.18	-.32/-.30	-.28/-.24
Preference for Green Party	6.68 (3.27) / 4.54 (3.24)	-.27/-.17	-.50/-.29	-.37/-.31	-.44/-.30
Preference for CDU/CSU	3.30 (2.75) / 3.76 (2.98)	-.03/-.17	.09/-.11	-.12/-.33	-.03/-.24
Preference for FDP	2.09 (2.54) / 3.37 (2.53)	-.04/-.10	.06/-.07	-.05/-.18	-.02/-.14
Preference for AfD	1.57 (1.89) / 2.64 (2.90)	.15/.17	.41/.32	.22/.29	.30/.30
Big Five Personality ^a					
Extraversion	- / 2.96 (0.63)	-/.08	-/.04	-/.05	-/.07
Agreeableness	- / 3.70 (0.54)	-/.07	-/.14	-/.06	-/.10
Conscientiousness	- / 3.81 (0.62)	-/.01	-/.08	-/.11	-/.07
Neuroticism	- / 2.74 (0.77)	-/.17	-/.13	-/.10	-/.15
Openness	- / 3.30 (0.68)	-/.07	-/.08	-/.12	-/.10

Note. PSM = Perceived Societal Marginalization. ePSM = economic PSM. cPSM = cultural

PSM. pPSM = political PSM. mPSM = mean of fifteen PSM items. Correlations left and right

of the slash (“/”) pertain to Study 1 ($n = 1,809$ for ‘Sociodemographics’ and $n = 870$ for

‘Social integration’ and ‘Ideology and Attitudes’) and Study 2 ($n = 757$), respectively.

Significant correlations are displayed in bold font. A grey background indicates a successful

cross-validation of preregistered correlations in Study 2 according to predefined criteria (see

<https://osf.io/mu782/> (‘Preregistrations’). ^a Only assessed in Study 2 and therefore not subject

to replication. ^b Social Dominance Orientation scaled from 1 (strongly disagree) to 10

(strongly agree) in Study 1 and from 1 (very negative) to 7 (very positive) in Study 2.

Discussion

The results of Study 1 support the structure of a general factor and three content-specific factors for the fifteen selected PSM items. This is in line with the aforementioned conceptual considerations (i.e., ‘losers of modernization hypothesis’, ‘cultural backlash hypothesis’, and ‘post-democratization hypothesis’). In addition, PSM’s nomological network corresponds to the existing literature on societal disadvantage in that PSM was significantly related to e.g., age, maleness, rural residence, a lower level of education, lack of perceived

social integration, and right-wing attitudes. These findings form the basis for our second study, in which we aim to cross-validate PSM's factor structure and correlates in a different sample.

Study 2: Validation of the PSM Scale

In this study, we administered the 15-item PSM scale to a different sample with the goal of cross-validating the factor structure, reliabilities, and nomological network obtained in Study 1. To test the latter, we applied the following two preregistered rules: If a correlation had the same level of significance (i.e., significant versus non-significant) and its absolute difference with the corresponding correlation in Study 1 was at most 0.1, we regarded the correlation as replicated. The preregistration is available at <https://osf.io/25tjs>. All other study materials can be found at <https://osf.io/mu782/>.

Method

Participants

Applying the same exclusion criteria as in Study 1 led to a total sample of 757 respondents (see Table S1 of the supplement for sample characteristics). Participants were recruited via the research institute respondi. Again, the sample size was planned in line with the conservative recommendation of obtaining at least 500 people to ensure reliable correlation and factor estimates (Comrey & Lee, 2013).

Procedure and Measures

The procedures and measures we administered in this study were identical to those of Study 1 with a few exceptions, which we describe in the following sections (for a complete overview see 'Complete Surveys' at <https://osf.io/mu782/>).

PSM. Here, we administered only the final PSM items (see Table 1) based on the selection procedure in Study 1.

SDO. Given the unsatisfactory internal consistency of the 4-item SDO measure applied in Study 1, we assessed SDO using an eight-item short version (Sibley & Duckitt, 2009) translated into German by Six et al. (2001). The SDO items were scored on a seven-point Likert scale from 1 (very negative) to 7 (very positive). After reverse-coding some of the items, we aggregated the scores into a single mean SDO score ($\alpha = .82$).

Subjective social class. To assess subjective social class, we asked participants to indicate their social class by choosing one of the following six options (1 = lower class, 2 = working class, 3 = middle class, 4 = upper middle class, 5 = upper class, 6 = none of these classes (coded as missing)).

Big Five Personality. We measured the Big Five personality factors with the 30-item BFI-2-S (Rammstedt et al., 2018). All items were scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) and aggregated into mean scores for extraversion ($\alpha = .71$), agreeableness ($\alpha = .64$), conscientiousness ($\alpha = .75$), neuroticism ($\alpha = .83$), and openness ($\alpha = .70$). Table S2 of the supplement shows the item descriptive statistics for the Big Five personality facets and their correlations with PSM (see ‘Supplemental results’ at <https://osf.io/mu782/>).

Results⁴

We tested the same models and calculated the same statistics as in Study 1. Tables 2 and 3 present all model fit results. Both the second-order three-factor model ($\chi^2(87) = 427.16$; $RMSEA = .072$; $CFI = .961$; $SRMR = .051$; $AIC = 32,110$) and the bifactor model ($\chi^2(75) = 233.97$; $RMSEA = .053$; $CFI = .982$; $SRMR = .030$; $AIC = 31,941$) show an acceptable model fit (Hu & Bentler, 1999). The models’ AICs indicate a better fit compared to the one-factor model ($AIC = 33,964$) and the three-factor model with independent factors ($AIC = 32,929$),

⁴ For the results of a 9-item domain-specific PSM short scale, see Table S3 and Figure S3, available at <https://osf.io/mu782/> (‘Supplemental results’). This scale might be useful, if sample characteristics or time constraints require the use of a highly economic PSM scale.

with the bifactor model showing the best fit. The internal consistencies and factor reliabilities were again satisfactory for all domains (see Table 2). In addition, the bifactor model fitted the data significantly better than a bifactor-(S-1) model (see Supplement available at <https://osf.io/mu782/>). The latent factors' variances are explored in the Supplement available at <https://osf.io/mu782/> ('Supplemental results').

With respect to PSM's nomological network, 115 (i.e., 82%) of the 140 correlations obtained in Study 1 were replicated. With three exceptions (i.e., the correlations of cultural PSM with monthly net income, preference for CDU/CSU, and preference for FDP), all non-replicated correlations showed the same direction of effects and differed only in terms of significance (i.e., significant vs. non-significant) or effect size. Therefore, PSM's nomological network possessed considerable stability across different study samples. In fact, vector correlations of the Fisher's z-standardized correlates of the PSM scales revealed a near-perfect nomological network similarity across studies (economic PSM: $r = .97$; cultural PSM: $r = .96$; political PSM: $r = .96$). A graphical illustration of the association of PSM with income, right-wing attitudes, and symbolic threat perception is available in the Supplement (see Figure S4) available at <https://osf.io/mu782/>.

Discussion

In Study 2, we aimed to cross-validate the PSM factor structure, reliability, and nomological network obtained in Study 1 in a different sample. The results revealed good model fits for both the second-order three-factor model and the bifactor model. All internal consistencies and factor reliabilities were again satisfactory and the nomological network showed remarkable stability across studies. Therefore, we regard the cross-validation of PSM's factor structure, reliability, and nomological network as successful.

General Discussion

In a series of studies, we developed and validated the PSM scale. It assesses individual differences in the perception that one's own social group is unappreciated and treated as unimportant by society in the domains of the economy, culture, and politics. Based on an iterative preregistered scale development process, we selected fifteen PSM items equally distributed across these domains. In addition, we investigated PSM's nomological network. In a second study, we cross-validated these results in a different sample. The results revealed that the PSM scale shows a stable and theoretically consistent structure and nomological network.

Belonging to and identifying with positively evaluated social groups represents a basic psychological need (Baumeister & Leary, 1995; Tajfel & Turner, 2004), the non-fulfilment of which may have a variety of negative consequences, including prejudice (e.g., Fein & Spencer, 1997; Pettigrew et al., 2008), support of anti-immigrant policies (Esses et al., 2017), and a lack of international solidarity (McLaren, 2002). Thus, the PSM scale allows for the psychometrically sound assessment of an individual difference variable that is especially relevant for understanding the current societal conflicts.

Factor Structure

Our results support a structure for the fifteen PSM items consisting of a general factor and three content-specific factors (i.e., economy, culture, and politics). Both the second-order three-factor model and the bifactor model showed a good fit for the PSM items, indicating that PSM can be conceptualized in terms of interrelated societal domains as well as in general terms. Additional analyses showed that social desirability and acquiescence did not pose a serious threat to the PSM scale (see Supplement available at <https://osf.io/mu782/>).

Nomological Network

Our results empirically underline the frequently discussed notion that older, male, lower-educated, low-income, and religious people living in rural areas experience the highest perceived societal disadvantage (e.g., Goodhart, 2017). In addition, the obtained correlations form a basis for informed hypotheses about potential causes and outcomes of PSM. For instance, a lack of valued or useful education and perceived social support might foster PSM, which in turn may lead to a preference for political populist parties who promise to protect people from the economic, cultural, and political changes brought about by globalization and modernization.

Limitations and Future Prospects

To test the effects of a lack of valued education or perceived social support empirically, future studies could experimentally manipulate the perceived usefulness and appreciation of elements of people's identities (e.g., their education or job type) and investigate its effects on PSM. One way to achieve this would be to confront participants with artificial feedback in which a large number of people consider the importance of the participants' education or profession to be declining. In this way, the importance of different parts of people's identities on the emergence of PSM can be systematically examined and compared.

The PSM scale represents a validated, economical, and flexible (i.e., covering domain-specific dimensions) instrument for investigating an important construct in the dynamics of societal discontent and conflicts. Due to the international nature of these conflicts, the scale's validation across countries and languages is an important future task. This would also allow for an interesting investigation of cross-cultural differences in PSM, its causes, and its outcomes, as well as potential moderating effects of culture. Across countries and languages, the PSM scale might furthermore benefit from incorporating the results of cognitive interviews to ensure the intercultural intelligibility of the PSM items.

Regarding PSM's practical relevance, its effects on behavioral outcomes (e.g., participating in political protests) is a particularly important area of future studies. In this context, investigating potential mediations and moderations of these effects is crucial to understand why and how people express their perceptions of societal depreciation and unimportance. Previous studies showed that negative societal meta-stereotypes (i.e., the belief that outgroup members hold negative views about one's own social group) mediated the effect of perceived (individual) marginalization on young people's readiness to use aggression (Issmer & Wagner, 2015). This effect could be tested for the different PSM domains and in samples with a higher variability in sociodemographic characteristics (e.g., age, educational level, and income). In addition, investigating potential moderators (e.g., social support) of PSM's outcomes may help to mitigate negative effects of PSM.

A construct closely related to political PSM is external political efficacy, that is, the belief that one can influence politics (Vetter, 1997; Beierlein et al., 2012). Future studies could enhance our understanding of PSM's nomological network by including external political efficacy as a criterion. Although the two constructs partly overlap (i.e., if people think they are ignored by politicians, they do not likely believe that they can influence them), they are not redundant. PSM focuses exclusively on people's social identities (i.e., "people like me") as a reference point and covers a broader range of potential manifestations of being depreciated or ignored.

Methodologically, it is desirable to study PSM with experimental and longitudinal research designs. This would allow for a proper investigation of its causes, effects, stability, and change over time. In addition, repeated measurements of PSM within individuals would allow disentangling two potential sources of variance in PSM: (1) a stable between-person variance and (2) a certain amount of within-person variance (i.e., due to varying salience of people's social identities). Furthermore, it could be tested whether the strength of social

identification with a certain group moderates the relationship between PSM and preference for certain political parties.

Since we have not measured PSM repeatedly in the present study, its stability and change over time remains an important area of future longitudinal research. Based on Social Identity Theory (Tajfel & Turner, 2004), the emergence of PSM should depend on (1) one's social group membership (i.e., the social group with which one identifies most), (2) the status of one's social group in society, and (3) the salience of one's social group membership. We argue that the first two aspects are rather stable (e.g., people's economic situation does not change easily), while the salience of one's group membership is more dynamic and dependent on external events (e.g., political campaigns). Therefore, PSM should be changeable, but still relatively stable, since some pillars of social identity (e.g., one's economic situation, cultural beliefs, and educational level) do not change quickly. Future studies should investigate PSM's short-term variation within persons (e.g., by experience sampling or experimental designs), as well as PSM's long-term stability and between-person variation (e.g., by panel designs).

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Open Science

We embrace the values of openness and transparency in science (Schönbrodt et al., 2015). We therefore preregistered our hypotheses and follow the 21-word solution (Simmons et al., 2012; <https://osf.io/25tjs>), or refer to complete project documentations in the OSF. There, we also publish all study materials (i.e., codebooks, surveys, preregistrations, PSM scale, statistical code, and supplemental results), including the raw data necessary to reproduce the reported results in this manuscript (<https://osf.io/mu782/>).