

Perceived Forcedness and Perils of Migration: Development and Validation of a Questionnaire for Migrants in Receiving Countries

The number of refugees has increased remarkably in recent years, and further refugee flows are likely in the immediate future (International Organization for Migration, 2021; United Nations High Commissioner for Refugees, 2022a). For many countries around the world, finding solutions to successfully integrate refugees has therefore become an urgent and yet difficult task. However, while the integration of migrants has been addressed in considerable research (e.g., Berry, 2005; Castro & Murray, 2010; Ward & Kus, 2012; Yakushko, 2010), the integration of refugees is still at its infancy. Indeed, extant research has indicated that migrants' experience of being *forced* to migrate is a pivotal part in their integration in a receiving country, and might be even more relevant than political or legal categorizations as refugees. For example, experience of high migration forcedness might be related with an initial focus on restoring violated basic needs, which in turn might hinder integration-relevant activities in the receiving country (Echterhoff et al., 2020). Moreover, a forced-voluntary *continuum* might be more valid to capture the psychological reality of migrants than a simple dichotomy of refugees and non-refugee migrants (Bakewell, 2021; Echterhoff et al., 2020; Erdal & Oeppen, 2018). To study the processes and conditions related to forced migrants' integration and ways to improve it, sound measures of migrants' experience of experienced forcedness and associated perils are highly needed.

In this research, we introduce the PMF-Mig (Perceived Migration Forcedness – Migrants) as a new questionnaire assessing the extent to which migrants experienced migration forcedness and associated perils on continuous scales. We developed the questionnaire combining a deductive approach, i.e., following a sound theoretical rationale, and an inductive approach, i.e., conducting qualitative research. In the main study, a comprehensive psychometric validation of the developed PMF-Mig questionnaire was conducted, including examination of the underlying factor structure as well as indicators of construct validity, criterion validity, sensitivity, and reliability.

Our study extends extant migration research in three central ways: First, we

investigate distinctive psychological characteristics of refugee migration in comparison to other forms of migration. Second, we extend research with categorical operationalizations of migration as forced vs. voluntary by developing and validating a questionnaire that operationalizes migration forcedness as a continuous variable. This approach may enhance our understanding of how different *degrees* of experienced forcedness and associated perils affect psychological processes within migrants, how these processes might change over time, and how they affect behavioral reactions with respect to the integration in a receiving country. Third, our questionnaire offers a standardized assessment of migrants' forcedness experiences and may thus help to systematically derive practical implications for refugees' successful integration.

Theoretical Background

Migration in general is associated with challenging demands and stressors, such as the adaption to a new culture, language barriers, concerns about the residence status, or discrimination experiences (e.g., Bhugra, 2004; Kuo, 2014; Berry, 2006; Yakushko, 2010). However, researchers increasingly emphasize that migrants might react differently to these general demands and stressors when their migration was *forced* as compared to voluntary (e.g., Becker & Ferrara, 2019; Donato & Ferris, 2020; Echterhoff et al., 2020). Accordingly, scholars demand to consider refugees as a specific group of migrants, and to adjust existing theoretical models and conceptualizations on integration to the case of being forced to migrate (e.g., Szkudlarek et al., 2021). The psychological antecedents of refugee integration (PARI) model (Echterhoff et al., 2020) provides such a refugee-specific conceptualization and postulates that migrants' retrospective representations of experienced migration forcedness and associated perils *moderate* the extent to which general migration demands in a receiving country elicit specific integration-relevant psychological responses.

Initial research findings support this reasoning. For example, before and during migration, forced as compared to voluntary migrants frequently experience violations of their basic human needs and lacking control (e.g., Crepet et al. 2017; Sigvardsdotter et al., 2016), which affect migrants' reactions to general migration stressors and demands in a receiving

country. For example, migrants with high vs. low levels of experienced forcedness and associated perils should focus more on basic needs recovery, which in turn limits the cognitive and motivational resources available to manage migration demands, like acculturation, language learning, or career planning (Echterhoff et al., 2020). Furthermore, when migration is forced, the departure is often rushed and unplanned, leaving little time to prepare travel and life in the destination country (Stein, 1981). These circumstances lead to rather uncertain future prospects for forced migrants (Schiltz et al., 2019). In addition, barriers on the institutional level, such as employment bans and lengthy asylum procedures often reinforce forced migrants' concerns about their future in the receiving country (Fasani et al., 2021; Kosyakova & Brenzel, 2020; Lee et al., 2020). Uncertain future perspectives, in turn, are likely to impair cognitive and motivational processes that usually promote migrants' integration, such as learning orientation, human capital investments, or career planning (Ginevra et al., 2021; XXX [citation omitted for peer reviewing]). Indeed, forced as compared to voluntary migrants come off worse on integration-relevant outcomes like mental health (Sangalang et al., 2019), employment probabilities, or wages (e.g., Connor, 2010; Lee et al., 2020). Thus, overall, initial findings suggest that migrants' experiences of migration forcedness and associated perils are a key factor for their integration-relevant responses and efforts.

Yet, further research would be beneficial. First, much of the reasoning presented originates from theoretical considerations (e.g., Echterhoff et al., 2020; Szkudlarek et al., 2021) and still awaits empirical investigation. Second, existing empirical research typically operationalized migration as a dichotomy of forced vs. voluntary migration (e.g., Connor, 2010; Gebre, 2002; Sangalang et al., 2019). However, scholars increasingly evaluate this dichotomy as fuzzy and emphasize that migrants can vary *continuously* in the extent to which they are exposed to migration perils and feel forced to migrate (Bakewell, 2021; Echterhoff et al., 2020; Erdal & Oeppen, 2018). Operationalizing a forced-unforced migration continuum instead of a dichotomy should thus enable more nuanced and realistic analyses. Systematic studies on how degrees of experienced migration forcedness and associated perils are

related to forced migrants' integration are still missing. To this end, a sound measure of migrants' degree of experienced forcedness and associated perils is highly needed.

In the present study we developed and validated the PMF-Mig, a new standardized questionnaire instrument measuring migrants' experienced forcedness and perils of migration on continuous scales. In the following, we introduce the core constructs of the questionnaire, i.e., *migration forcedness* and *migration perils*, in more detail.

The Concept of Migration Forcedness

Generally, forced migration is defined as a "migratory movement which, although the drivers can be diverse, involves force, compulsion, or coercion" (International Organization for Migration, 2019, p. 77). Examples of objective push factors, that may lead to subjective forcedness experiences in migrants, are war, political instability, poor economic conditions, or environmental disasters (Brück et al., 2018; Castelli, 2018; Neumayer, 2005).

We draw on self-determination theory (e.g., Deci & Ryan, 1985) for a deeper psychological and theoretical understanding of the construct of migration forcedness. Self-determination theory is a theory of human motivation which has its roots in research on intrinsic and extrinsic motivations. A specific feature of self-determination theory and its included mini-theory of organismic integration is that intrinsic and extrinsic motivation are not understood as dichotomous, but as a continuum (Deci & Ryan, 1985; Ryan & Deci, 2002). Specifically, this theory proposes a controlled-to-autonomous motivation continuum. Autonomously motivated individuals perceive themselves as agents of their own actions and make choice decisions about what their goals are and how to achieve these goals (e.g., Deci & Ryan, 1987). In contrast, controlled motivation involves feeling pushed to behave in specific ways and lacking true choice decisions (e.g., Deci & Ryan, 1987). Core elements of autonomous vs. controlled motivation are thus (a) an internal vs. external locus of causality and (b) existing vs. non-existing options for choice.

Accordingly, we propose that two key characteristics constitute migration forcedness as a continuous construct. The first characteristic refers to the extent to which the *locus of causality* of migration is regarded as internal or external. The more migrants regard the

locus of causality as internal, the more they perceive themselves as main initiators of their migration decision. In contrast, the more migrants regard the locus of causality as external, the more they perceive migration as forced due to situational push factors, such as violent conflicts, persecution, severe economic hardship, or climate change (e.g., Abel et al., 2019; Castelli, 2018; Lee, 1966). In case of forced migration, the presence of severe push factors, i.e., an external locus of causality, is very likely (e.g., Castelli, 2018; Neumayer, 2005). The second characteristic refers to the extent of *options for choice* during the migration process. The more migrants perceive to have options for choice, the more their need for autonomy is fulfilled. In contrast, the more migrants lack choice options, the more they feel controlled and pushed to behave in specific ways. In case of forced migration, little options for choice, for instance concerning the course of their migration or the destination country, are very likely (e.g., Lacroix, 2004; Stein, 1981).

The Concept of Migration Perils

The experience of forced migration is usually connected with the experience of severe and potentially traumatic events like war, persecution, or natural disasters (Abel et al., 2019; Castelli, 2018; Lee, 1966). We propose that two categories of such perils exist, i.e., *pre-migration-perils* and *migration perils* (Echterhoff et al., 2020; Giacco et al., 2018; Liebkind, 1996). Pre-migration perils refer to the severe dangers for life and fundamental basic needs in the home country *before* migration, such as war or persecution, which foster feelings of being forced to migrate (e.g., Reed et al., 2016; Ward et al., 2001). Migration forcedness, in turn, increases the likelihood of high dangers *during* their migration journey, i.e., migration perils, such as life-threatening situations at sea or hunger (Betts, 2010; Dolma et al., 2016; United Nations High Commissioner for Refugees, 2022b). In case of forced migration, high levels of both experienced pre-migration-perils as well as migration perils are very likely (e.g., Crepet et al. 2017; Liebkind, 1996; Sigvardsdotter et al., 2016).

Questionnaire Development and Pilot Study

Based on the outlined definitions, we first generated items covering the construct of migration *forcedness*. We established two subscales (see section “The Concept of Migration

Forcedness”): first, *locus of causality*, measuring the extent migrants perceive their migration to be internally (self-)determined or determined by external forces (e.g., “I was forced to leave my home country”); second, *options for choice*, capturing the degree to which migrants perceive to be able to select desired outcomes, such as the destination country, during their migration process (e.g., “I could decide for myself to which country I want to migrate”). We built on items from a questionnaire on migration forcedness as perceived by residents of receiving countries (Niemann & Hertel, 2022), which is based on similar theoretical foundations and assumptions regarding construct structure. Together, we derived six items measuring migration forcedness, with three items per subscale (see Table 1 for all items).

Furthermore, we generated two subscales of experienced *perils* (see section “The Concept of Migration Perils”): *pre-migration perils*, assessing to what extent migrants experienced perils in the home country before migration, and *migration perils*, measuring the degree of experienced perils during the migration journey. Following an additional inductive approach, we conducted a qualitative pilot study to identify categories of perils experienced before and during forced migration, which would serve as basis to generate corresponding items. In total, we interviewed $N = 22$ migrants (68% male, 32% female) aged between 23 and 54 years ($M = 33.73$; $SD = 5.91$), recruited via migrant and refugee services organizations as well as university online press channels. Specifically, we conducted semi-structured interviews, asking for perils experienced before and during migration. The study was (ethically) approved by the local ethics committee (XXX [citation omitted for peer reviewing]). A detailed description of the interview process is provided in the online supplement (see XXX [provided after review]). We coded the interviews using a qualitative content analysis (e.g., Mayring, 2022). In line with research on basic human needs (e.g., Deci & Ryan, 1985; Tay & Diener, 2011), the analysis revealed perils related to migrants’ basic *physiological* and *psychological* needs in the home country as well as during departure. Specifically, the qualitative content analysis resulted in four categories of pre-migration perils and migration perils, respectively. A first category of pre-migration perils included those that seriously threatened migrants’ *safety*, such as war, crime, food shortages or lacking medical

care. A second category included pre-migration perils that seriously limited migrants' basic need for *autonomy*, for instance, missing freedom of speech or harsh discrimination of cultural, religious, political, or sexual orientations. A third category were pre-migration perils that seriously limited migrants' abilities to act, i.e., threatening their basic need for experiencing *competence*, for example, extreme uncertainty and lack of perspectives with respect to education, career, and family. Finally, a fourth category included pre-migration perils leading to extreme loneliness, thus threatening individuals' basic need for *relatedness*, such as loss of or separation from beloved ones and friends. In addition, we found equivalent categories of perils potentially occurring during migration, i.e., migration perils. First, migration perils seriously endangering migrants' *safety* (e.g., dangerous transport routes, crime, food shortages or lacking medical care), second migration perils seriously limiting the basic need for *autonomy* (e.g., missing freedom movement and dependence on human traffickers), third perils seriously limiting migrants' abilities to act, i.e., threatening their basic need for *competence* (e.g., lacking language skills and massive uncertainty regarding the onward journey and arrival) and, fourth, perils related to extreme loneliness and thus threatening migrants' basic need for *relatedness* (e.g., separation from beloved ones and friends, difficulties to trust others, aloneness). Two independent persons sorted the interview codes, i.e., the perils mentioned in the interviews, into the developed category system. The calculation of Cohen's Kappa confirmed strong interrater reliability with $\kappa = .82$ for the category system of pre-migration perils, $\kappa = .88$ for the category system of migration perils, and $\kappa = .85$ for the overall category system of pre-migration and migration perils (McHugh, 2012). Consistent with the categorization, we developed four items measuring how often the mentioned pre-migration perils were *experienced* and four items measuring how often the mentioned migration perils were *experienced* (e.g., "Massive loneliness (examples: loss, isolation from beloved ones and friends / difficulties to build trust with others) ...I experienced during my migration journey"). For exploratory purposes, we additionally developed four items measuring how often the mentioned pre-migration perils were prospectively *feared* and four items measuring how often the mentioned migration perils were prospectively *feared*

(e.g., “Massive loneliness (examples: loss, isolation from beloved ones and friends / difficulties to build trust with others) ...I feared during my migration journey”). In total, the developed questionnaire consisted of 22 items (see Table 1).

Main Study

The main study contained a comprehensive validation of the developed questionnaire. First, we examined the questionnaire’s factorial validity. Specifically, we expected to confirm the theoretically postulated four-dimensional factor structure, i.e., migration forcedness and associated perils with their two subscales each. More formally, we hypothesized:

Hypothesis 1¹: The items of the PMF-Mig follow a four-dimensional factor structure, i.e., migration forcedness and associated perils with two subscales, respectively *locus of causality*, *options for choice*, *pre-migration perils* and *migration perils*.

Second, we investigated the *construct validity* of the PMF-Mig forcedness scales. Hypotheses concerning construct validity relate only to the latent construct of migration forcedness, but not to the more objective construct of migration perils. With respect to *convergent construct validity*, we postulated positive relationships of the forcedness scales with the constructs *push factor migration*, *perceived responsibility for migration*, and *interpersonal loss*. We argue that forced migration is driven by external forces (e.g., Davenport et al., 2003; Reed et al., 2016; Ward et al., 2001). In line with self-determination theory (e.g., Deci & Ryan, 1987), highly forced migrants should perceive low levels of agency and choice in their decision to leave the home country. Drawing on this reasoning, we expected that migrants who experienced high levels of migration forcedness (a) evaluate their migration as a push migration rather than a pull migration, and (b) perceive low levels of responsibility for the decision to migrate. Moreover, we expected that high levels of migration forcedness relate to (c) high levels of experienced interpersonal loss, i.e., losses due to the death or separation from family members and friends (Vromans et al., 2012). The adverse

¹ Hypotheses were preregistered via AsPredicted (see https://aspredicted.org/blind.php?x=7GZ_5BF for an anonymized version). Relations between the PMF-Mig and indicators of occupational integration were examined in a separate study.

circumstances before and during forced migration should increase the likelihood that forced migrants lose family members or friends (e.g., Giacco et al., 2018; Sigvardsdotter et al., 2016). In addition, the difficulty of a safe return to the home country in case of forced migration typically implies a long separation from beloved ones who did not emigrate (e.g., United Nations High Commissioner for Refugees, 2022a; Zetter, 2021). In sum, with respect to convergent construct validity, we hypothesized:

Hypothesis 2a: Migrants' experiences of migration forcedness are negatively associated with their perceived responsibility for their migration².

Hypothesis 2b: Migrants' experiences of migration forcedness are positively associated with their perception of having been pushed (vs. pulled) to migrate.

Hypothesis 2c: Migrants' experiences of migration forcedness are positively associated with their perceived interpersonal loss.

Third, we investigated the *divergent construct validity* of the PMF-Mig forcedness scales by considering the relations of the forcedness scales with the construct *access to home familiarity*, which is defined as “the accessibility of aspects (e.g., environment, people, things, and culture) of [the] home country” (Wang et al., 2015, p. 4). Migration in general goes along with a limited access to the home country and its culture and thus requires a sociocultural adaptation as shown, for instance, by theories on acculturation processes (e.g., Berry, 2005; Castro & Murray, 2010; Ward et al., 2001). Accordingly, regardless of the degree of experienced forcedness and perils, migrants should generally perceive a limited access to home familiarity. Thus, we did not expect the PMF-Mig scales to significantly correlate with this construct. We postulated:

Hypothesis 3: Migrants' experiences of migration forcedness are unrelated to their perception of access to home familiarity.

Fourth, we explored the *concurrent criterion validity* of the PMF-Mig. In this regard, we expected the PMF-Mig to be negatively related to migrants' *mental health*. Echterhoff et al. (2020) note that experience of migration forcedness and its associated perils should

² Please note the typo in the preregistration, incorrectly postulating a positive correlation.

imply feelings of control loss as well as uncertain future time perspectives in the home country. These circumstances can undermine the perceived self-efficacy and agency (Bandura, 1997), impede functional coping processes and should thus increase the likelihood of mental health complaints. Indeed, research confirmed higher levels of mental health complaints for refugees as compared to non-refugee migrants, for instance displayed in higher prevalence rates of mood disorders, anxiety and stress-related disorders, as well as psychotic disorders (e.g., Hollander et al., 2016; Lindert et al., 2009; Porter & Haslam, 2005; Priebe et al., 2016). We thus expected a negative relation of migrants' experienced forcedness and perils and their mental health.

Hypothesis 4: Migrants' experiences of migration forcedness and perils are negatively associated with their mental health.

Finally, we investigated the *sensitivity* of the PMF-Mig. We expected the questionnaire to reliably detect relative differences between refugees and non-refugee migrants. Consistent with the United Nations High Commissioner for Refugees (2021) definition of a refugee as a person “who has been *forced to flee* his or her country” [emphases added], we predicted that refugees perceive higher experienced migration forcedness and associated perils than non-refugee migrants. More formally, we hypothesized:

Hypothesis 5: Migrants with legal refugee status perceive higher levels of experienced forcedness and perils than migrants without such legal status.

Method

Participants

We recruited participants via migrant and refugee services organizations and social media. Participation in the online survey required that individuals were at least 18 years old and had migrated or fled to Germany. They also had to confirm having sufficient knowledge of Arabic, English or German to be able to answer the provided questions. In total, $N = 246$ participants completed the online questionnaire and agreed to the use of their anonymous data for scientific purposes. We excluded data from $n = 2$ participants who spent less than

one third of the median response time in the survey and were thus identified as speeders. The final sample comprised $N = 244$ participants (52% male, 47% female, 1% no information) between 18 and 63 years of age ($M_{\text{age}} = 37.37$ years; $SD_{\text{age}} = 9.16$ years). Among all participants, 41% had a refugee status and 55% had a non-refugee status (i.e., visa for work, EU citizen, German who lived abroad, Emigrant of German descent from Eastern Europe, other). Regarding the educational level, 48% reported having a master's degree, 36% an undergraduate or bachelor's degree, 10% higher education or tertiary education, and 6% reported having less than higher or tertiary education. Most of the participants reported being employed (75%), while 25% reported being unemployed.

Procedure

We started the online questionnaire with a welcome page including global information concerning the study, followed by the option to select the preferred survey language among German (chosen by 55%), English (chosen by 25 %), and Arabic (chosen by 20%). In the selected language, participants then received detailed information on the structure of the study and data protection guidelines. We emphasized that participation in the survey would not affect potential asylum applications and that a denial option can be selected in case participants cannot or do not want to answer a question. In a first part, participants were then asked to answer questions related to their migration, i.e., the items of the PMF-Mig, followed by scales for construct validation. A second part included questions related to mental health, followed by a third part including demographic questions. After completion of the survey, participants could opt to be informed about the study results. The contact data provided for this purpose were stored separately from participants' survey data.

Participation in the survey was voluntary and data were processed anonymously. We asked for participants' consent to the use of their data at the beginning and after completion of the survey. At the beginning and at the end, or when the survey was terminated, participants were given a list with professional support options in case they felt unwell after the survey. The study was (ethically) approved by the local ethics committee (XXX [citation omitted for peer reviewing]).

Measures

PMF-Mig

To assess the extent of migrants' experienced migration *forcedness* and associated *perils*, we included the developed items of the PMF-Mig (see Table 1). Forcedness items were scored on a fully verbalized seven-point agreement Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *rather disagree*, 4 = *neutral*, 5 = *somewhat agree*, 6 = *agree*, 7 = *strongly agree*) with denial option (*no answer*). Perils items were scored on a fully verbalized seven-point frequency Likert scale (1 = *never*, 2 = *very seldom*, 3 = *seldom*, 4 = *sometimes*, 5 = *often*, 6 = *very often*, 7 = *always*) with denial option (*no answer*).

Scales for Construct Validation

We measured the perceived *responsibility for migration* with the item "I feel personally responsible for having migrated" to be scored on a seven-point response scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *rather disagree*, 4 = *neutral*, 5 = *somewhat agree*, 6 = *agree*, 7 = *strongly agree*) including a denial option (*no answer*).

We assessed to what extent migration is regarded as *push vs. pull factor migration* in accordance with Hoffmann et al. (2019) by presenting the item "Please indicate to what extent it was a push or a pull force that motivated your migration" with the seven response options 1 = *mainly pull forces*, 2 = *definitely more pull forces*, 3 = *slightly more pull forces*, 4 = *both equally*, 5 = *slightly more push forces*, 6 = *mainly push forces*, 7 = *definitely more push forces*, and a denial option (*no answer*).

To measure *interpersonal loss*, we used the subscale interpersonal loss of the Multidimensional Loss Scale (MLS, Vromans et al., 2012), asking for (a) the experience of loss events and (b) the distress that experienced losses cause. Participants indicated the occurrence of three interpersonal loss events by ticking the response option "yes", "no", or the denial option "no answer". A sample item is "Have you experienced death of a friend or community member?". For items that were ticked with "yes", participants were then asked "How much is the experience upsetting you or causing you difficulties in any way?" with a four-point response scale (1 = *not at all*, 2 = *a little*, 3 = *quite a bit*, 4 = *extremely*) including a

denial option (*no answer*). Research on the MLS (Vromans et al., 2012) demonstrated good psychometric qualities for this subscale, i.e., an acceptable reliability of $\alpha = .71$ for the interpersonal loss distress scale and support for the questionnaire's construct validity. In the present study, Cronbach's α of this scale was .76.

To assess the *access to home familiarity* we used three items of the subscale access to home familiarity of the Cross-Cultural Loss Scale (CCLS, Wang et al., 2015), e.g., the item "Compared with your experiences back in your home country, now living in Germany you have less access to the cultural environment of home?". Participants scored their responses on a five-point response scale (1 = *not at all*, 2 = *a little*, 3 = *moderately*, 4 = *quite a bit*, 5 = *extremely*). Studies for validation (Wang et al., 2015) indicated good psychometrics properties of this subscale, including an acceptable reliability ($\alpha = .73$), evidence of construct validity and incremental variance in the prediction of subjective well-being over and above related constructs. In our study, Cronbach's α of this scale was .75.

Scales for Criterion Validation

We assessed *mental health* with the five-item version of the Mental Health Inventory (MHI-5, Berwick et al., 1991). An example item is "How much of the time, during the last month, have you felt calm and peaceful?". Items were assessed on a seven-point response scale (1 = *never*, 2 = *very seldom*, 3 = *seldom*, 4 = *sometimes*, 5 = *often*, 6 = *very often*, 7 = *always*) with denial option (*no answer*). Research on the MHI-5, evaluated this questionnaire as a reliable (e.g., $\alpha = 0.74$) and valid measure, particularly to detect disorders of mood and anxiety (e.g., Rumpf et al., 2001). Cronbach's α of this scale was .91 in the present study.

Statistical analyses

We analyzed the results using R. Due to the relatively small sample size, we ran analyses across the different language versions of the PMF-Mig (e.g., Kyriazos, 2018; Schönbrodt & Perugini, 2013). Before conducting our main analyses, we investigated the descriptives of the main study variables and the item statistics of the PMF-Mig. We then conducted a confirmatory factor analysis to test the hypothesized factor structure of the PMF-Mig (Hypothesis 1). We calculated correlation coefficients to determine the postulated

associations of the questionnaire scales and the validity criteria (Hypotheses 2-4). To analyze construct validity, we also examined Composite Reliability, Average Variance Extracted, Maximum Shared Squared Variance, and Average Shared Squared Variance (Hair et al., 2010). Finally, we used independent samples t-tests to test the hypothesized differences in forcedness and perils experiences for migrants with and without legal refugee status (Hypothesis 5).

Results

Descriptives and Item statistics

Table 2 contains means, standard deviations, and intercorrelations of the main study variables. Table 1 presents descriptive statistics of the PMF-Mig items. Mean values ranged from 3.03 to 4.30 and standard deviations from 1.93 to 2.54. All items met the thresholds for skewness ($<|2|$) and kurtosis ($<|7|$) suggested by West et al. (1995) with skewness $<|0.51|$ and kurtosis $<|1.74|$. Additionally, item-total correlations with a range of .64 to .86 met the cut-off value of .30 (Nunnally & Bernstein, 1994).

[Insert Table 1 here]

[Insert Table 2 here]

Confirmatory Factor Analysis

We conducted a confirmatory factor analysis and applied thresholds defined by Schermelleh-Engel et al. (2003) to evaluate fit indices, i.e., a non-significant χ^2 test, a CFI and TLI of $\geq .95$ or better $\geq .97$, an RMSEA of $\leq .08$ or better $\leq .05$, and an SRMR of $\leq .10$ or better $\leq .05$. A confirmatory factor analysis across forcedness and all perils items (i.e., experienced and feared perils) indicated rather unsatisfactory fit indices, $\chi^2 (203) = 1045.05$, $p < .001$; CFI = .79; TLI = .76; RMSEA = .14; SRMR = .07. Consistent with the large correlation of experienced and feared perils presented in Table 2 ($r = .94$, $p < .001$), modification indices indicated high correlations between items measuring experienced vs. feared perils, i.e., between items 7a and 7b, 8a and 8b, 9a and 9b, 10a and 10b, 11a and 11b, 12a and 12b, 13a and 13b, 14a and 14b. Accordingly, we subsequently calculated a confirmatory factor analysis across forcedness and experienced perils items and another

analysis across forcedness and feared perils items. For the first model, including forcedness and experienced perils items (see Figure 1a), results confirmed an acceptable to good fit of the expected four-factor model, i.e., CFI = .96; RMSEA = .07; SRMR = .05. Only the TLI, with a value of .94, was slightly below the cut-off value of $\geq .95$. The χ^2 test was significant ($\chi^2 (71) = 150.76, p < .001$). A significant χ^2 test is common with increasing sample size, while the CFI is regarded as most stable fit index regarding effects of sample size (Tanguma, 2001). Also, for the second model, including forcedness and feared perils items (see Figure 1b), results confirmed an acceptable to good fit of the expected four-factor model, i.e., CFI = .96; RMSEA = .08; SRMR = .05. Again, the χ^2 test was significant ($\chi^2 (71) = 160.35, p < .001$). Results thus indicated that it is not necessary to differentiate between experienced and feared perils and, overall, gave support for the four-dimensional factor structure of the PMF-Mig, confirming Hypothesis 1 (for an illustration of path coefficients see Figures 1a and 1b).

[Insert Figure 1 here]

Table 3 displays the reliability coefficients for the PMF-Mig scales. In line with Dunn et al. (2014), we considered ω_H (McDonald, 1999) as an indicator of reliability, when congeneric vs. essentially τ -equivalent measurement models fit the data better (see the last three columns of Table 3 for χ^2 -difference tests results). Considering values of α and $\omega_H \geq .70$ as acceptable (e.g., Lance et al., 2006; Nunnally, 1978; Schweizer, 2011), the coefficients ranging from .86 to .93 indicated good reliability.

[Insert Table 3 here]

Validation Analyses

Table 4 contains the results of the correlation analyses. The forcedness scale correlated strongly with the indicators for convergent construct validity, i.e., $r = -.52, p < .001$ with the scale *perceived responsibility for migration* (Hypothesis 2a), $r = -.52, p < .001$ with the scale *push vs. pull factor migration for migration* (Hypothesis 2b), and $r = .39, p < .001$ with the scale *interpersonal loss* (Hypothesis 2c). There was no significant correlation between migration forcedness and migrants' *access to home familiarity* (Hypothesis 3). For a

deeper investigation of construct validity, we supplemented the correlation analyses with methods proposed by Hair et al. (2010). In line with Hypotheses 2a-c, convergent validation scales fulfilled criteria for convergent validity (Hair et al., 2010), i.e., composite reliability > .70, composite reliability > average variance extracted, and average variance extracted > .50 (see Table 5). In line with Hypothesis 3, divergent validation scales fulfilled criteria for divergent validity (Hair et al., 2010), i.e., maximum shared variance < average variance extracted, and average shared variance < average variance extracted (see Table 5). Thus, overall, results confirm Hypotheses 2 and 3. As concerns concurrent criterion validity, the PMF-Mig scales correlated negatively with migrants' *mental health*, i.e., $r = -.12$, $p = .041$ for the forcedness scale, $r = -.16$, $p = .009$ for the experienced perils scale, and $r = -.18$, $p = .003$ for the feared perils scale, providing support for Hypothesis 4.

[Insert Table 4 here]

[Insert Table 5 here]

Sensitivity Analyses

One-sided independent samples t-tests showed higher levels of experienced forcedness for legal refugees ($M = 5.16$) than for other migrants ($M = 2.38$) with $t(212) = 14.934$, $p = < .001$. Moreover experienced perils were higher for legal refugees ($M = 5.05$) as compared to other migrants ($M = 2.57$) with $t(212) = 15.120$, $p = < .001$. Similarly, feared perils were higher for legal refugees ($M = 5.40$) as compared to other migrants ($M = 2.64$) with $t(210) = 16.238$, $p = < .001$. These results support Hypothesis 5 and provide evidence for the sensitivity of the PMF-Mig.

Discussion

The purpose of this study was to develop and validate a measure of migrants' degree of experienced migration forcedness and associated perils. The results of an online study with $N = 244$ participants indicated good psychometric properties of the developed PMF-Mig questionnaire. A confirmatory factor analysis provided evidence for the hypothesized four-dimensional factor structure of the PMF-Mig, i.e., locus of causality, *perceived options for choice*, *pre-migration perils*, and *migration perils*, supporting our theoretical considerations.

Consistent with self-determination theory and its included mini-theory of organismic integration (e.g., Deci & Ryan, 1985; Ryan & Deci, 2002), (a) the perceived locus of causality of the migration decision and (b) the perceived choice options during the migration process represented two distinct aspects of migration forcedness. Moreover, in line with existing research (e.g., Echterhoff et al., 2020; Giacco et al., 2018; Liebkind, 1996), (a) migration perils experienced before migration in the home country could be distinguished from (b) perils experienced during the migration journey. Factor analyses showed that *experienced* perils cannot meaningfully be distinguished from *feared* perils. Both scales were highly correlated. Thus, the more migrants experienced perils, the more they also feared the experience of perils in the future. For reasons of test economy, we recommend asking only for feared migration perils. Both scales had good psychometric properties but, in comparison, the feared perils items showed higher item loadings, reliabilities, and stronger correlations with the validation criterion mental health. Generally, the scales of the PMF-Mig reached good levels of reliability and are short, allowing an efficient application. Results also gave evidence for the sensitivity of the PMF-Mig, by indicating higher levels of migration forcedness and perils for migrants with legal refugee status than for migrants without such legal status.

Correlational analyses supported construct and criterion validity of the PMF-Mig. In line with self-determination theory (e.g., Deci & Ryan, 1985), migrants felt rather pushed vs. pulled to migrate, and less responsible for their migration, the more they were forced to migrate. Furthermore, the more migrants were forced to migrate, the higher was the probability that they had lost or were separated from family members and friends. Consistent with extant research (e.g., Giacco et al., 2018; Sigvardsdotter et al., 2016; Ward et al., 2001), experienced migration forcedness thus seems to be associated with interpersonal losses. As hypothesized, experienced forcedness was not related to migrants' access to home familiarity. This pattern is consistent with acculturation research suggesting that migration in general implies little access to such home familiarity and requires a sociocultural adaptation (e.g., Berry, 2005; Castro & Murray, 2010; Ward et al., 2001). Supporting the criterion validity

of the PMF-Mig, we found negative relations of migrants' experienced forcedness and perils with migrants' mental health. Accordingly, in line with extant research, migrants are more likely to suffer from mental health complaints when they were highly forced to leave their home country (e.g., Hollander et al., 2016; Lindert et al., 2009; Porter & Haslam, 2005; Priebe et al., 2016). Overall, results supported the psychometric quality and suggest a promising utility of the PMF-Mig.

Limitations and Future Directions

Despite these promising findings, our study has some limitations, providing directions for future research. First, our study sample was relatively small and contained well-educated migrants (84% academics) in Germany. The generalizability of our findings is therefore limited. Future research could address this issue by investigating the psychometric properties of the PMF-Mig in other nations and generally more diverse, e.g., less educated, samples. Additionally, replication studies with larger sample sizes are clearly desirable, also to test for intercultural intelligibility of the German, English, and Arabic PMF-Mig items. Second, our findings are based on a cross-sectional study design. We recommend future research to conduct longitudinal studies to investigate the stability of migrants' retrospective forcedness and perils perceptions.

Implications

Providing evidence for the reliability, validity, and efficiency of the PMF-Mig, the present study allows us to recommend the use of this new measure in research and practice. The PMF-Mig offers several ways to extend prior research. First, our new measure allows to test extant theoretical ideas and models with empirical data. We encourage scholars to adjust existing theories on migration in general to the context of forced migration and to investigate to what extent levels of experienced forcedness and perils affect migrants' integration-related processes and efforts (Szkudlarek et al., 2021). For instance, studies could examine whether migrants with high vs. low levels of experienced forcedness and associated perils are more preoccupied with the recovery of basic needs, in turn restricting cognitive and motivational resources for integration-related efforts (Echterhoff et

al., 2020). Possible personal and contextual factors could be examined, too. For example, personal characteristics like openness, optimism, or motivational persistence as well as context factors (e.g., administrative and political hurdles, societal support) might influence the outlined processes. Second, the PMF-Mig addresses the fact that migrants can vary *continuously* in the extent to which they experienced migration forcedness and associated perils (Bakewell, 2021; Echterhoff et al., 2020; Erdal & Oeppen, 2018). Thus, by operationalizing a forced-voluntary migration continuum, our new measure allows scholars to replicate and differentiate extant empirical research that compared forced vs. unforced migrants in a dichotomy (e.g., Connor, 2010; Gebre, 2002; Sangalang et al., 2019). Third, we recommend future research to combine studies on the PMF-Mig with forcedness and perils measures from the perspective of residents of receiving countries. Such investigations allow for cross-validations and offer the opportunity to examine potential interactive processes between migrants and residents of receiving countries. For instance, cycles of self-fulfilling prophecies might exist, in which residents' perceptions influence migrants' reactions, which then again influence residents' perceptions (Echterhoff et al., 2020).

From a practical perspective, such findings are important to provide policy makers and practitioners with evidence-based and empirically grounded recommendations for effective integration interventions. In general, our findings suggest that utility and effectiveness of specific integration interventions vary, depending on migrants' level of experienced forcedness and perils (e.g., Lindert et al., 2009). As an example, the negative relation between migrants' experienced forcedness and perils and their mental health implies that especially forced migrants are in need for mental health programs. Moreover, the often-experienced losses of control and agency, could be addressed with specific interventions fostering forced migrants' self-efficacy and their need for competence, relatedness, and autonomy, for example (Echterhoff et al. 2020; Weinstein et al., 2016). In sum, awareness of the impact of experienced migration forcedness and associated perils, should have strong potential for refugees' successful integration.

Conclusion

To conclude, the newly developed PMF-Mig questionnaire offers a reliable, valid, and efficient approach to assess migrants' experiences of migration forcedness and associated perils after arrival in a receiving country. It can be a useful tool to better understand to what extent migrants' experience of being forced to migrate affects their responses to the general challenges of migration. The use of the PMF-Mig thus allows researchers to gain improved explanations and predictions of refugees' integration. This should put us in a better position to contribute to the development or improvement of integration interventions (e.g., tailored to the specifics of refugee migration) and to provide practitioners and policymakers with empirically grounded recommendations addressing the challenge of refugees' successful integration.

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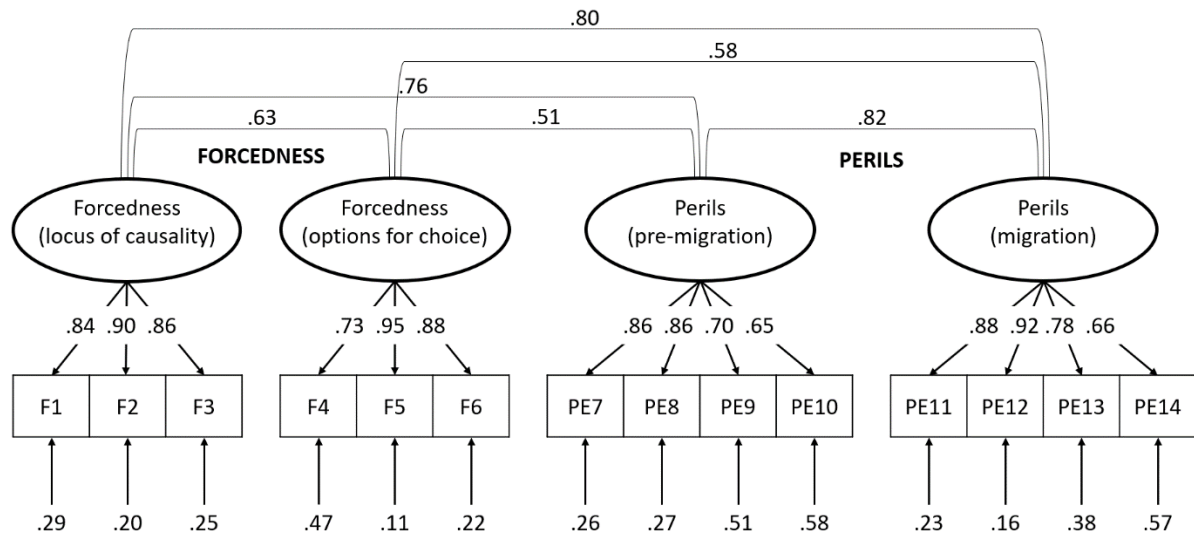
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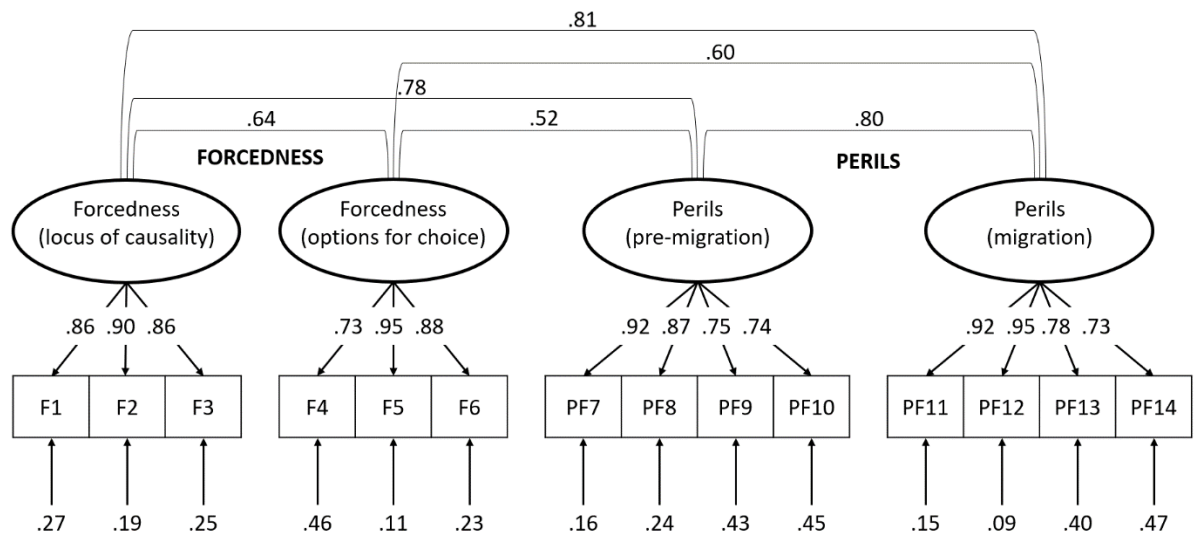
Figure 1

Results of Confirmatory Factor Analysis (a) Across Forcedness and Experienced Perils Items and (b) Across Forcedness and Feared Perils Items

a)



b)



Note. Standardized coefficients are reported. F1 - F6 = Forcedness Item 1 – 6; PE7 – PE14 = Experienced Perils Item 7 – 14; PF7 – PF14 = Feared Perils Item 7 – 14.

Table 1*Items and Item Statistics of the PMF-Mig*

No.	Scale	Item	<i>M</i>	<i>SD</i>	Skew	Kurtosis	<i>r_{it}</i>
1*	F-LOC	I was free to decide whether to leave my home country.	3.40	2.48	0.40	-1.60	.77
2		I was forced to leave my home country.	3.59	2.54	0.22	-1.74	.72
3*		It was beyond my control to leave my home country.	3.46	2.50	0.34	-1.65	.72
4*	F-OFC	I could decide for myself to which country I want to migrate.	3.54	2.28	0.30	-1.47	.64
5*		I could determine for myself the course of my migration.	3.60	2.22	0.25	-1.50	.74
6*		I could plan my migration according to my own ideas.	3.83	2.23	0.16	-1.50	.71
7	Pre-Migration Perils	Massive dangers to my life... <i>Examples: War / crime / disregard for human dignity by state institutions / food shortage, poverty, lack of medical care</i>					
a		...I experienced in my home country.	3.93	2.17	-0.09	-1.41	.73
b		...I feared in my home country.	4.40	2.18	-0.41	-1.22	.79
8		Massive restrictions on my liberty... <i>Examples: Discrimination of culture, religion, sexual orientation / no freedom of speech, movement, choice (e.g., surveillance)</i>					
a		...I experienced in my home country.	4.09	2.20	-0.14	-1.41	.77
b		...I feared in my home country.	4.24	2.22	-0.29	-1.39	.77
9		Massive restrictions on my capacity to act... <i>Examples: Hopelessness / massive uncertainty (e.g., regarding career, education and family)</i>					
a		...I experienced in my home country.	4.30	2.00	-0.36	-1.09	.65
b		...I feared in my home country.	4.56	2.06	-0.51	-1.05	.69
10							

a	Massive loneliness... <i>Examples: Loss, isolation from beloved ones and friends / difficulties to build trust with others</i>	...I experienced in my home country.	3.03	1.93	0.47	-1.09	.68
		...I feared in my home country.	3.32	2.19	0.34	-1.37	.75
11	Massive dangers to my life... <i>Examples: Dangerous transport routes / crime / disregard for human dignity by state institutions / food shortage, poverty, lack of medical care</i>						
a	Migration Perils	...I experienced during my migration journey.	3.06	2.33	0.48	-1.46	.81
b		...I feared during my migration journey.	3.28	2.32	0.33	-1.54	.85
12	Massive restrictions on my liberty... <i>Examples: Discrimination of culture, religion, sexual orientation / no freedom of movement, choice (e.g., dependence on traffickers)</i>						
a	Migration Perils	...I experienced during my migration journey.	3.07	2.21	0.49	-1.31	.82
b		...I feared during my migration journey.	3.18	2.27	0.42	-1.44	.86
13	Massive restrictions on my capacity to act... <i>Examples: Hopelessness / massive uncertainty (e.g., regarding onward journey and arrival) / no language skills</i>						
a	Migration Perils	...I experienced during my migration journey.	3.40	2.10	0.18	-1.41	.74
b		...I feared during my migration journey.	3.53	2.19	0.14	-1.44	.75
14	Massive loneliness... <i>Examples: Loss, isolation from beloved ones and friends / difficulties to build trust with others / aloneness</i>						
a	Migration Perils	...I experienced during my migration journey.	3.61	2.09	0.08	-1.33	.66
b		...I feared during my migration journey.	3.51	2.14	0.16	-1.36	.73

Note. $N = 244$. r_{it} = item-total correlations, * = inverted items. F-LOC = forcedness – locus of causality, F-OFC = forcedness – options for

choice. Forcedness items were scored on a seven-point response scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *rather disagree*, 4 = *neutral*, 5

= *somewhat agree*, 6 = *agree*, 7 = *strongly agree*) with denial option (*no answer*). Perils items were scored on a seven-point response scale (1

= *never*, 2 = *very seldom*, 3 = *seldom*, 4 = *sometimes*, 5 = *often*, 6 = *very often*, 7 = *always*) with denial option (*no answer*).

Table 2*Means, Standard Deviations, and Correlations for the Main Study Variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Age	37.37	9.16											
2. Education ^o	1.77	0.93	.15**										
3. PMF-Mig	3.50	1.66	-.17*	-.27***									
4. Forcedness	3.50	1.90	-.12†	-.26***	.86***								
5. Perils	3.58	1.71	-.19**	-.23***	.98***	.74***							
6. Perils (experienced)	3.51	1.68	-.18*	-.21***	.96***	.71***	.98***						
7. Perils (feared)	3.72	1.81	-.21**	-.25***	.96***	.73***	.99***	.94***					
8. Push Migration	4.04	2.14	-.10	-.12*	.62***	.52***	.60***	.58***	.60***				
9. Migration Responsibility	4.90	2.13	.24***	.23***	-.48***	-.52***	-.42***	-.39***	-.42***	-.40***			
10. Interpersonal Loss	2.39	1.63	-.12	-.13*	.49***	.39***	.48***	.46***	.47***	.22**	-.26**		
11. Home Familiarity Access	2.71	1.04	-.08	-.01	-.13†	-.10	-.10	-.09	-.08	.01	.05	.06	
12. Mental Health	4.90	1.25	.10	.03	-.15*	-.12†	-.15*	-.16*	-.18**	-.12†	.07	-.23**	-.19**

Note. *N* = 244. Pearson's product-moment correlation were calculated. ^o = ordinal variable. Kendall's tau-b for relations between ordinal and interval variables.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided).

Table 3*Reliability Coefficients and Measurement Model Tests for the PMF-Mig Scales*

Scale	Cronbach's α	ω_H	$\Delta\chi^2$	df	p
Forcedness	.89	.89	152.53	6	<.001
- Locus of causality	.90	.90	235.86	3	<.001
- Options for choice	.88	.89	192.45	3	<.001
Perils (experienced)	.91	.92	151.57	8	<.001
- Pre-migration	.85	.86	108.36	4	<.001
- Migration	.88	.89	155.28	4	<.001
Perils (feared)	.93	.93	222.82	8	<.001
- Pre-migration	.89	.89	172.39	4	<.001
- Migration	.91	.91	238.69	4	<.001

Note. $N = 244$. The χ^2 -difference test compares essentially τ -equivalent measurement models with congeneric measurement models. The appropriate reliability estimates are shown in bold.

Table 4

Correlations of the Forcedness and Perils Scales with Indicators of Convergent (Responsibility for Migration, Push Migration, Interpersonal Loss), Divergent (Access to Home Familiarity), and Criterion (Mental Health) Validity

Validation Scale	Forcedness	Experienced Perils	Feared Perils
Responsibility for Migration	-.52***		
Push Migration	.52***		
Interpersonal Loss	.39***		
Access to Home Familiarity	-.10		
Mental Health	-.12*	-.16**	-.18**

Note. $N = 244$. Pearson's product-moment correlation were calculated.

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (one-sided; two-sided for divergent correlation analysis with access to home familiarity).

Table 5

Composite Reliability, Average Variance Extracted, Maximum Shared Variance, and Average Shared Variance of the Forcedness Scales and Construct Validation Indicators

Measurement Model		CR	AVE	MSV / ASV
Forcedness (F) & Responsibility for Migration (R)	F	0.89	.59	.32
	R	1.00	.58	.32
Forcedness (F) & Push Migration (PM)	F	0.89	.58	.32
	PM	1.00	.56	.32
Forcedness (F) & Interpersonal Loss (I)	F	0.88	.59	.28
	I	0.76	.59	.28
Forcedness (F) & Access to Home Familiarity (A)	F	0.89	.58	.02
	A	0.75	.51	.02

Note. $N = 1,056$. CR = Composite Reliability, AVE = Average Variance Extracted, MSV = Maximum Shared Variance, ASV = Average Shared Variance. Values for MSV and ASV are equal as measurement models consist of only two factors.