Lewczuk, K, Marcowski, P, Wizla, M, Gola, M, Nagy, L, Koós, M, Kraus, S, Demetrovics, Z, Potenza, MN, Ballester-Arnal, R, Batthyány, D, Bergeron, S, Billieux, J, Briken, P, Burkauskas, J, Cárdenas-López, G, Carvalho, J, Castro-Calvo, J, Chen, L, Ciocca, G, Corazza, O, Csako, R, Fernandez, DP, Fujiwara, H, Fernandez, EF, Fuss, J, Gabrhelík, R, Gewirtz-Meydan, A, Gjoneska, B, Grubbs, JB, Hashim, HT, Islam, MDS, Ismail, M, Jiménez-Martínez, MC, Jurin, T, Kalina, O, Klein, V, Költő, A, Lee, S-K, Lin, C-Y, Lin, Y-C, Lochner, C, López-Alvarado, S, Lukavská, K, Mayta-Tristán, P, Miller, DJ, Orosová, O, Orosz, G, Sungkyunkwan University's Research Team, , Ponce, FP, Quintana, GR, Quintero Garzola, GC, Ramos-Diaz, J, Rigaud, K, Rousseau, A, De Tubino Scanavino, M, Schulmeyer, MK, Sharan, P, Shibata, M, Shoib, S, Sigre-Leirós, V, Sniewski, L, Spasovski, O, Steibliene, V, Stein, DJ, Ünsal, BC, Vaillancourt-Morel, M-P, Van Hout, MC and Bőthe, B

Cross-cultural Adult ADHD assessment in 42 countries using the Adult ADHD Self-Report Scale Screener

Article

Title: **Cross-cultural Adult ADHD assessment in 42 countries using the Adult ADHD Self-Report Scale Screener**

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Acknowledgements

The Authors would like to thank: French media: L'Avenir de l'Artois, La Voix Du Nord, Le Parisien and Wéo as well as Digital Ethics Center (Skaitmenines etikos centras) and Lithuanian National Radio and Television (Lietuvos nacionalinis radijas ir televizija) for their help with recruitment and data collection.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Funding Information
KLe was supported by Sonatina grant awarded by National Science Centre, Poland, grant number: 2020/36/C/HS6/00005.
MG was supported by National Science Centre of Poland grant number: 2021/40/Q/HS6/00219.
LN was supported by the ÚNKP-22-3 New National Excellence Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund.
MK was supported by the ÚNKP-22-3 New National Excellence Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund.
SWK was supported by the Kindbridge Research Institute.
ZD was supported by the Hungarian National Research, Development, and Innovation Office (Grant number: KKP126835).
SB was supported by a Tier 1 Canada Research Chair.
LJC was supported by the National Social Science Foundation of China (Grant No. 19BSH117).
RC was supported by Auckland University of Technology, 2021 Faculty Research Development Fund.

HF was supported by Grant-in-Aid for Transformative Research Areas (A) (Japan Society for The Promotion of Science, JP21H05173), Grant-in-Aid for Scientific Research (B) (Japan Society for The Promotion of Science, 21H02849), and the smoking research foundation.
RG was supported by Charles University institutional support program Cooperatio-Health Sciences.
JBG was supported by grants from the International Center for Responsible Gaming and the Kindbridge Research Institute.
CY-L was supported by the WUN Research Development Fund (RDF) 2021.
ChL received support from the WUN Research Development Fund (RDF) 2021.
KLu was supported by Charles University institutional support program Cooperatio-Health Sciences.
PMT was supported by Universidad Cientifica del Sur.
GO was supported by the ANR grant of the Chaire Professeur Junior of Artois University and by the Strategic Dialogue and Management Scholarship (Phase 1 and 2).
SURT was supported by Brain Korea 21 (BK21) program of National Research Foundation of Korea.
GQG was supported by the SNI #073–2022 (SENACYT, Rep. of Panama).
KR was supported by a funding from the Hauts-de-France region (France) called "Dialogue Stratégique de Gestion 2 (DSG2)".
MPVM was supported by a Research Chair from the Université du Québec à Trois-Rivières and a career award from the Fonds de recherche du Québec - Santé (FRQ-S).
Title: Cross-cultural Adult ADHD assessment in 42 countries using the Adult ADHD Self-Report Scale Screener

Abstract

Based on a large-scale research project involving 42 countries (*International Sex Survey*, N=72,627, 57% women, M_{age}=32.84; SD=12.57), we analyzed adult ADHD symptoms in a cross-cultural context, including investigation of the occurrence and potential correlates of adult ADHD, and psychometric examination of the Adult ADHD Self-Report Scale (ASRS) Screener. The ASRS Screener demonstrated good reliability and validity, along with partial invariance across different languages, countries, and genders. Consistent with previous evidence showing low specificity of adult ADHD screening instruments, the occurrence of being at risk for adult ADHD was relatively high (21.4% for women, 18.1% for men). The highest scores were obtained in the US, Canada, and other English-speaking Western countries, with significantly lower scores among East Asian and non-English-speaking European countries. Moreover, ADHD symptom severity and occurrence were especially high among gender-diverse individuals. Significant associations between adult ADHD symptoms and age, mental and sexual health, and socioeconomic status were observed.

Keywords: attention deficit/hyperactivity disorder, ADHD, adult ADHD, cross-cultural, assessment

Introduction

Attention deficit/hyperactivity disorder (ADHD) is one of the most common childhood psychiatric disorders (e.g., Polanczyk & Jensen, 2008), where symptoms have traditionally been considered to diminish or cease in late adolescence or early adulthood (Hill & Schoener, 1996). Although it is now known that impairing levels of symptoms often persist into adulthood (Caye et al., 2016; Kooij et al., 2010), screening, diagnosis, and treatment of ADHD in adults lag behind those in children and require further exploration.

Two central features of ADHD include inattentiveness and impulsiveness/hyperactivity which are inconsistent with the child's developmental level (American Psychiatric Association [APA], 2013). The abovementioned factors have been found to be consistent across cultures for children (e.g., Bauermeister et al., 2010), suggesting common genetic and neurobiological underpinnings of the disorder, which are at least to some degree, not dependent on cultural factors (Meyer, 2005). At the same time, the basic character of adult ADHD across cultures did not undergo similar scrutiny, and previous analysis suggests significant cultural variability in its prevalence, rate of diagnosis, and treatment (Fayyad et al., 2017; e.g., Gómez-Benito et al., 2019; Timimi & Taylor, 2004). The present study focuses on the subject of adult ADHD screening in a cross-cultural context, employing and psychometrically evaluating one of the most established measures for adult ADHD assessment, the Adult ADHD Self-Report Scale (ASRS) Screener (Kessler et al., 2005, 2007).

The ASRS Screener and Adult ADHD Assessment

The extended version of the ASRS Screener and its direct predecessor, the ASRS, were developed by the World Health Organization (WHO) World Mental Health Initiative as previously existing measures of adult ADHD failed to address all 18 Diagnostic and Statistical Manual of Mental Disorders (DSM) IV Criterion A symptoms (Kessler et al., 2005, 2007).

Further analysis showed that the same, or even higher, diagnostic precision of the full 18-item ASRS can be achieved with six items, creating a unidimensional, shortened version of the full scale (i.e., the ASRS Screener). This version of the screener offered the best psychometric properties and was characterized by a sensitivity of 68.7% and specificity of 99.5%, with a total classification accuracy of 97.9% and high internal consistency (Kessler et al., 2005, 2007). Moreover, the ASRS Screener has demonstrated good test-retest reliability (Matza et al., 2011) as well as high sensitivity to identify ADHD in clinical samples (e.g., for people seeking treatment for substance use disorders; Van De Glind et al., 2013). Recently, the ASRS Screener has been updated to better fit DSM-5 diagnostic criteria for adult ADHD (APA, 2013), although its 6-item length remained unchanged (Ustun et al., 2017). In the current cross-cultural analysis, we are using the original DSM-IV version. Initial work on a clinical sample showed that DSM-IV and DSM-5 versions achieve almost identical psychometric characteristics in terms of sensitivity, specificity, and positive and negative predictive value (Bastiaens & Galus, 2018).

It is worth noting that adult ADHD screening – including the ASRS Screener – is limited by several challenges. First, positive adult ADHD diagnosis currently requires symptoms to be present during childhood, that is, knowledge about recent level of symptoms is not sufficient for a diagnosis. Secondly, symptoms of ADHD are non-specific and can appear in the course of a wide variety of conditions, including anxiety, mood, and substance use disorders (e.g., National Collaborating Centre for Mental Health UK [NCCMH UK], 2009). Lastly, self-report measures are also prone to multiple biases and may be manipulated by respondents (Lovett & Harrison, 2021). Therefore, clinicians should not rely on self-report alone for ADHD assessment, as multiple factors may result in high false-positive rates in self-report screening measures.

Available reports show that the rate of clinical diagnosis of ADHD in the US and some other Western countries has undergone a several-fold increase in the 21st century (e.g., McCarthy

et al., 2012; Olfson et al., 2013), which is possibly facilitated by the limitations of screening tools to assess ADHD accurately. However, exaggeration of symptoms by individuals to obtain prescription medications (i.e., stimulants to enhance cognitive performance or for recreational purposes) or disability accommodations have been linked to ADHD overdiagnosis (e.g., Lovett & Harrison, 2021). Given these factors, a surge of ADHD diagnoses in the US has been termed as an epidemic problem (Paris et al., 2015). On the other hand, adults with ADHD often describe experiencing significant concerns in multiple domains that may not be adequately appreciated or identified by clinicians (Ginapp et al., 2022, 2023). This indicates that further work is needed to better understand the disorder and its repercussions.

An important research avenue in adult ADHD research lies outside of the so-called "WEIRD" populations (i.e., Western, Educated, Industrialized, Rich, and Democratic populations) involving groups underrepresented in research (e.g., Fayyad et al., 2017; Gómez-Benito et al., 2019). Much prior research on adult ADHD has been based on student samples (Lovett & Harrison, 2021), which calls for research efforts targeting populations including older individuals.

Adult ADHD Prevalence and Cultural Context

The prevalence estimates of adult ADHD assessed with the ASRS, as well as other screening tools, differ largely across studies depending on the sample's characteristics, grading criteria, and cut-off values (e.g., Song et al., 2021). As direct cross-cultural comparisons have been rare in previous studies, it is challenging to determine whether differences in estimates may derive from methodological, sample-related, cultural, or other types of differences (Polanczyk et al., 2007). One notable multi-country initiative that allowed for direct-cross cultural comparisons of the prevalence of ADHD in adults is the WHO World Mental Health Surveys (Fayyad et al., 2017). The study was based on standardized interviews administered face-to-face in respondents'

homes, assessing a range of DSM-IV disorders. The study involved participants from 20 countries and showed that ADHD occurrence was estimated to be the highest in Western high-income countries like France (7.3%), Northern Ireland (6.0%) and the USA (5.2%) – and lower in middle/low-income countries, for instance Iraq and Romania (both 0.6%; see: Fayyad et al., 2017).

Occurrence estimates based on self-report surveys employing large-scale national samples range from 2.1% to 11.4% (Adler et al., 2019 [*N*=22,397, 2.1%, US sample]; Kessler et al., 2006 [*N*=3,199, 4.4%, US sample]; Polanczyk et al., 2010 [*N*=3,007, 5.8%, representative Brazilian sample]; Vňuková et al., 2021 [*N*=1,518, 7.8%, Czech sample]; Weissenberger et al., 2018 [*N*=1,012, 11.4%, Czech sample]). In rare cases, reported adult ADHD occurrence in general population convenience samples has been higher (20.2%; Panagiotidi et al., 2019, *N*=344; mostly British sample). In clinical psychiatric populations, adult ADHD rates typically exceed 20% (e.g., Syed et al., 2010 [*N*=243]). Moreover, early conceptualizations suggested that ADHD was more prevalent in males (APA, 2013). Currently, however, some researchers claim this disproportion results from the underestimation of female cases arising from bias in sampling, differences in symptomatology or presentation or other factors (Simon et al., 2009).

Although cross-cultural comparative research on ADHD is scarce, findings suggest the existence of cultural differences regarding perceptions of ADHD and ADHD-like symptoms (e.g., Fayyad et al., 2017; Song et al., 2021). As degrees of support versus discouragement towards hyperactive or impulsive behavior may differ between cultures, perceptions of what behavior is considered problematic or disordered may also differ (e.g., Gómez-Benito et al., 2019; Timimi & Taylor, 2004). Thus, quantitative research of ADHD occurrence and treatment-seeking individuals may partially reflect cultural expectations and the influence of cultural environment on behavior (Kooij et al., 2010).

Present Study Goals and Adult ADHD Related Factors

The goal of the present study was to investigate cross-cultural variability in adult ADHD symptoms, by analyzing symptom severity, occurrence of scoring at risk for adult ADHD, and cross-cultural measurement invariance, reliability, and validity of the ASRS Screener across analyzed country samples. Attention was given to non-Western countries, in which ADHD diagnosis is not as established, and to minority samples (e.g., gender-diverse individuals). Investigating cross-cultural measurement invariance is essential, as it shows whether the analyzed underlying construct and employed instrument have the same structure, are interpreted in similar ways, and have comparable applicability in different languages, countries or subgroups like gender-based ones (e.g., Davidov et al., 2014).

Next, several factors potentially relevant to adult ADHD were analyzed, including age, gender, socioeconomic status, and mental, physical, and sexual health. Previous analysis showed that ADHD symptoms may decline with age (e.g., Faraone & Biederman, 2005), be more severe in gender minority individuals (Bretherton et al., 2021; Dawson et al., 2017), people affected by socioeconomic disadvantage (Russell et al., 2014) and be associated with increased odds of various psychiatric disorders (NCCMH UK, 2009).

Method

Procedure

The International Sex Survey (ISS) is a large, cross-sectional, multi-national study, conducted online in 42 countries[1]. The study design was preregistered ([PREREGISTRATION LINK]).

[1] [1] Egypt, Iran, Pakistan, and Romania were included in the study protocol paper as collaborating countries (Bőthe, Koós, et al., 2021); however, it was not possible to get ethical approval for the study in a timely manner in these countries. Chile was not included in the study protocol paper as a collaborating country (Bőthe, Koós, et al., 2021) as

Translation. The original (English) version of test battery was translated into 25 other languages, according to guidelines of a pre-established translation procedure for cross-cultural studies (Beaton et al., 2000). The translation procedure is also described in more detail in the previously published study protocol (Bőthe et al., 2021).

Data collection. Data for the ISS were collected between October 2021 and May 2022 in all collaborating countries. Participants who responded to the study advertisements completed an anonymous survey on the Qualtrics Research Suite, which took approximately 25 to 45 minutes. Detailed information regarding data collection was described previously (Bőthe et al., 2021).

To ensure transparency of data use, all published manuscripts and conference presentations which employ data gathered as part of the ISS project are available using the following links: publications, [PUBLICATIONS LINK]; conference presentations, [CONFERENCES LINK].

Ethics. The study was conducted in accordance with the Declaration of Helsinki. The study procedures were approved by appropriate ethics review boards for collaborating countries or, in some cases, the appropriate ethics review boards considered the study exempt from additional approval as it had already been approved by the ethics review boards of the principal investigators' institutions ([SUPPORTING DOCUMENTS LINK]). All participants were informed about the study and provided informed consent.

Participants

On the data preprocessing stage, participants who (a) failed more than one out of three attention questions and/or (b) produced response patterns suggesting inattentiveness (e.g., contradictory answers to several questions, see [PREREGISTRATION LINK] for a detailed

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it joined the study after publishing the study protocol. Therefore, instead of the planned 45 countries (Bőthe, Koós, et al., 2021), only 42 individual countries are considered in the present study, see details at https://osf.io/n3k2c/.

description). Next, after excluding all participants with missing values in the variables of interest, data collected from 72,627 participants (M_{age}=32.84, *SD*=12.57) were included in the analyses. Of all participants, 41,360 identified as women (57.0% of the total sample), 28,877 as men (39.8%), and 2,390 (3.3%) as gender-diverse individuals. Detailed sociodemographic distribution is presented in Table 1.

Measures

The complete set of measures collected, including item questions and available responses in all languages, can be found following the link: [TRANSLATIONS LINK]. Outlined below are measures focal to the current analyses.

Adult ADHD symptom severity was assessed using the ASRS Screener (Kessler et al., 2007). This questionnaire is a 6-item screening measure for adult ADHD symptoms and is an abbreviated version of the 18-item ASRS, developed by the World Health Organization (Kessler et al., 2005). It measures the frequency of relevant behaviors (on a scale from 0 [*Never*] to 4 [*Very often*]).

For the ASRS Screener validity analyses, we included additional measures. With three separate questions, we gathered information about participants' self-reported (1) *mental*, (2) *physical*, and (3) *sexual conditions*. Response options were 0 (indicating that a participant is not suffering from mental, physical, or sexual condition) and 1 (indicating that a participant is suffering from mental, physical, or sexual condition). As an indicator of relative *socioeconomic status*, respondents were also asked to rate their life circumstances in comparison to the others. Response options ranged from 1 (*among the worst*) to 7 (*among the best*)**.**

Data Analysis

All analytical procedures were performed in the *R* computational environment (R Core Team, 2019). Preregistered analysis plan can be found using the link [ANALYSIS PLAN LINK]. R code used for the statistical analysis can be found following the link [CODE LINK].

Descriptive Analysis. First, descriptive statistics were calculated for all ASRS Screener items. We rejected the hypothesis that the data were missing non-randomly, based on Little's missing completely at random test ($\chi^2(105)=106.21$, $p=.449$). On this basis, all observations with missing values in any of the ASRS Screener items were removed.

Dimensionality. The dimensionality of the ASRS Screener was assessed using CFA. Evaluation of model fit was based on established goodness-of-fit metrics (Marsh et al., 2005; Schermelleh-Engel et al., 2003): Comparative Fit Index (CFI; ≥.90 adequate; ≥.95 good), Tucker-Lewis Index (TLI; ≥.90 adequate; ≥.95 good), and Root-Mean-Square Error of Approximation with its 90% confidence interval (RMSEA; ≤.10: acceptable, ≤.08: adequate, and ≤.05: good; Kenny et al., 2015; Schermelleh-Engel et al., 2003). The diagonally weighted least square estimator was used for fitting the CFA and measurement invariance models (Finney & DiStefano, 2013).

Measurement Invariance. To minimize measurement bias and maximize inter-group comparisons validity, tests of measurement invariance were performed with language, country, and gender of participants as grouping variables (Millsap, 2011; Vandenberg & Lance, 2000). Six levels of invariance were tested with increasingly constrained parameters: configural (i.e., same structure across groups), metric (i.e., same factor loadings across groups), scalar (i.e., same item intercepts across groups), and residual (i.e., same residual covariance across groups), as well as latent variance-covariance, and means invariance (Milfont & Fischer, 2010; Vandenberg & Lance, 2000).

Significant changes in RMSEA (ΔRMSEA $\leq$.015) and CFI (ΔCFI $\leq$.01) suggested which level of measurement invariance was achieved (Chen, 2007; G. W. Cheung & Rensvold, 2002). We also reported additional goodness-of-fit metrics (TLI) to account for model parsimony in model comparisons (Marsh et al., 2005, 2013). In cases where full invariance was not achieved, partial invariance tests were performed by progressively releasing equality constraints (i.e., factor loading, intercept, and residual covariance parameters for a given item) in the order according to the expected χ^2 difference until assumed cut-off values for the changes in RMSEA and CFI were met (Milfont & Fischer, 2010) or the number of modification indices was exhausted.

For measure invariance tests, based on an *a priori* Monte Carlo simulation (see details in [ANALYSIS PLAN LINK]), only groups consisting of a minimum of 460 participants were retained. Accordingly, in the language-based measurement invariance tests, 20 of 26 groups met the minimum group size criterion, 32 out of 42 groups for country-based tests and all three gender groups (i.e., men, women, gender-diverse individuals) meeting the size criterion for gender-based tests.

Reliability, Validity, and Screening Threshold. ASRS Screener reliability was assessed using Cronbach's alpha and McDonald's omega (McDonald, 1970; McNeish, 2018; Nunnally, 1978). Validity was assessed by calculating ASRS Screener general score correlations with theoretically relevant characteristics and testing for differences in total ASRS Screener scores between participants who identified themselves as men, women, or gender-diverse individuals (one-way analysis of variance; η^2 is provided as effect size as well as Cohen's *d* for pairwise comparisons).

Results

Descriptive Statistics and Confirmatory Factor Analysis of the Full Sample

A one-factor measurement model was fit to the data with acceptable goodness-of-fit (RMSEA=.093, 95% CI [.091, .095]; CFI=.945; TLI=.909). Although the obtained RMSEA was slightly higher than the recommended target value of < .08, given that other indicators achieved acceptable scores, the tested model was unidimensional and based on only six items (which should be considered when evaluating RMSEA; Kenny et al., 2015), we proceeded with this model with no additional adjustments. Summary statistics for ASRS total score, items, and standardized factor loadings are presented in Table 2.

Measurement Invariance Across Language, Country, and Gender Groups

First, measurement invariance was assessed across language groups. Descriptive statistics for countries included in measurement invariance tests are given in *Supplemental Materials* in Table S1. Table S1 contains both unadjusted means for the ASRS Screener in respective country-based subsamples, as well as means adjusted for age and gender as those basic characteristics differed between country subsamples and may have relevance for the presentation of ADHD symptoms. Additionally, both empirical (unadjusted) and adjusted means are depicted in Figure 1. Next, mean comparisons for the countries included in measurement invariance tests are depicted in Tables S2 (unadjusted means) and S3 (means adjusted for age and gender). Since changes in RMSEA and CFI values in the measurement invariance tests did not meet the assumed cut-offs, subsets of constraints were relaxed, resulting in acceptable changes in goodness-of-fit metrics up to the level of residual invariance. Second, measurement invariance across country groups was assessed. Like in the language-based tests, partial invariance was tested by relaxing select constraints. Again, this method resulted in adequate changes in goodness-of-fit metrics up to residual invariance. Third, measurement invariance across genders was also tested. The same

method was used as described above, resulting in partial invariance, this time up to a variance-covariance level.

These results suggest that, while differences in group means may be present, no significant measurement biases exist across the examined variables. The results of all measurement invariance test sets, along with a detailed description of relaxed constraints, are available in *Supplemental Materials* (Tables S4-S6).

Reliability and Validity

The ASRS demonstrated adequate reliability, as evidenced by acceptable values of the Cronbach's alpha (α=.73) and McDonald's omega (ω=.82). There were also differences in ASRS scores with respect to gender (F(2; 72,624)=855.57, p<.001, η^2=.02), with gender-diverse individuals scoring higher (M=13.20, SD=4.89) than women (M=10.14, SD=4.36; t(72,624)=33.25, p<.001, Cohen's d=0.66), who in turn, scored higher than men (M=9.49, SD=4.35, t(72,624)=19.35, p<.001, Cohen's d=0.15).

In addition, the ASRS Screener score had weak to moderate associations with theoretically relevant variables (Figure 2), including age (r=-.28, p<.001), socioeconomic status (r=-.10, p<.001), self-reported experiences with mental illness (r=.32, p<.001), and sexual problems (r=.09, p<.001), but not physical illness (r=.01, p=.218).

Applicability of the ASRS Cut-Off Score

Applicability of the diagnostic cut-off score for the ASRS Screener was assessed by calculating the proportion of individuals who screened positive using the established threshold of 14 points or more (Kessler et al., 2007). 20.9% of participants (15,201 out of N=72,627 participants) scored above the screening threshold, indicating higher risk of adult ADHD. Comparisons of participants who scored lower or higher on the ASRS Screener in their respective

countries are presented in Table 3. In terms of gender, 21.4% of women (8,838), 18.1% of men (5,213), and 48.1% of gender-diverse individuals (1,150) scored above the threshold.

Discussion

The aim of the article was cross-cultural examination of adult ADHD symptoms, filling a gap in research on adult ADHD outside of WEIRD populations and among groups underrepresented in research (e.g., gender-diverse individuals). Concurrently, the present study allowed for achieving these aims while investigating the psychometric properties of one of most popular self-report screening measures, the ASRS Screener. First, the unidimensional model of the ASRS Screener was tested and found to fit the data well for the whole sample. This result supports the notion that ASRS Screener assesses a single underlying construct. The factor loadings of all six items were sufficiently high, and the internal consistency achieved for the measure was also high. Overall, this supported the notion that the 6-item ASRS Screener is an internally coherent, unidimensional brief tool for assessing general ADHD symptoms in adults.

The ASRS Screener achieved partial invariance across languages and countries up to the residual invariance level. For gender groups, full metric invariance was achieved, with partial invariance up to the variance-covariance level. This indicates that although some differences in item interpretation and measurement may exist, the basic structure of the adult ADHD symptoms as assessed by the ASRS Screener was similar across the country, language, and gender groups. However, it should be noted that relaxing constraints as part of testing partial invariance on different levels has implications for the interpretability of the results, as well as the generalizability of the questionnaire and inter-group comparisons (Millsap, 2011; Vandenberg & Lance, 2000). Therefore, the present findings should be interpreted cautiously (implications of relaxing equality constraints on each of these levels are further detailed in the *Supplemental Materials*).

Occurrence of Being at Risk for Adult ADHD Across Countries

The occurrence rates estimated in the current study for different countries varied starkly between 9.1% and 32.3%. For most countries in the study (29 of 42), estimates exceeded 20%, higher than those usually reported in previous studies where estimates of current occurrence reached up to 15% (Adler et al., 2019; Kessler et al., 2006, 2007; Vňuková et al., 2021; Weissenberger et al., 2018). Of the countries which qualified for measurement invariance analysis, the highest percentages of being at-risk for adult ADHD were noted for the US (34.9%) and Canada (31.0%), followed predominantly by other Western countries for which English is the primary language: South Africa (29.6%), Ireland (28.8%), New Zealand (28.5%), and the United Kingdom (28.0%). The lowest occurrence was found in a more diverse group of countries including non-English speaking European countries (predominantly not Western European) as well as East Asian countries: Germany (10.0%), North Macedonia (13.2%), Taiwan (13.8%), Israel (14.4%), Lithuania (14.6%), Hungary (15.5%), and South Korea (17.2%). Similarly, gender- and age-adjusted means (which may offer less biased estimates) of adult ADHD symptom severity were highest in the US, New Zealand, Canada, Australia, and Ireland, while lowest in South Korea, North Macedonia, Italy, Taiwan, and Israel.

When interpreting results, it is important to note that the ASRS was designed as a screener. Hence, false positives will exist. Thus, scoring above the diagnostic threshold for ASRS Screener may not reflect a case and should rather call for further clinical assessment. As discussed earlier, symptoms characteristic of ADHD, including inattentiveness, impulsiveness, and hyperactivity, are non-specific to ADHD and may relate to other disorders and behavioral problems (NCCMH UK, 2009). Similar to other measures of adult ADHD, the ASRS Screener does not provide information about the possible childhood onset of the disorder. While this is currently needed for diagnosis, it should be noted that in some cases, ADHD only presents first in

adulthood. This might be especially the case with women and others for whom inattentiveness is the leading symptom. Nonetheless, recent findings suggest a high rate of false-positives using self-report screeners for adult ADHD (Chamberlain et al., 2021). Moreover, in the present study, samples were not representative of the national populations, and reported percentages should not be considered an accurate representation of ADHD prevalence or severity as reported across languages, countries, and genders.

Further possible explanations for being at risk for adult ADHD may be related to increased diagnoses of ADHD in the 21st century (and possible overdiagnosis), especially in Western countries. Evidence supporting this hypothesis shows a six-fold increase in cases in which stimulants were prescribed from 1994 to 2009 in the USA alone (Olfson et al., 2013), and doubling in the UK between 2004 and 2009 (McCarthy et al., 2012). Moreover, the previous analysis provided initial evidence that excessive use of digital media among adolescents, which has also increased recently, has been associated with subsequent, significant increases in self-reported ADHD symptoms (Ra et al., 2018).

Increasing rates of adult ADHD diagnosis in Western countries may also be connected to ADHD-related information being accessible and proliferated in Western countries (especially English-speaking countries, where people can easily access much ADHD-related information). Previous findings (Suhr & Wei, 2017) show that exposure to popular information on ADHD can make people focus on their self-perception of impulsive and inattentive behavior seemingly fitting ADHD symptom descriptions, even when they do not meet the formal criteria for the disorder. Next, in the process of formal diagnosis and/or screening, people may inaccurately (although honestly) report heightened levels of symptoms (Suhr & Wei, 2017). Thus, cultural factors related to ADHD may be partially responsible for differences in adult ADHD symptom severity in the countries analyzed in the current study. Lastly, another possible explanative route

in light of which current results can be considered is based on previous, initial evidence showing elevated severity of ADHD symptoms as related to the COVID-19 pandemic (see: Behrmann et al., 2022). As the present research was conducted during the COVID-19 pandemic, findings should be treated with caution.

Sociodemographic Factors and Other Adult ADHD-Related Variables

Analysis of factors potentially associated with adult ADHD in the current work brought significant evidence of convergent analysis of the ASRS Screener (e.g., negative association with age, positive association with self-reported mental health problems).

Age. Our results point to weak to moderate, negative associations of the ASRS Screener score with age, consistent with research showing an age-related decline of ADHD (e.g., Faraone & Biederman, 2005; Polanczyk et al., 2007).

Gender. In our study, women displayed slightly more severe symptoms of ADHD than men. Moreover, more women than men scored above the diagnostic threshold. Some research showed results consistent with this pattern: women with ADHD experienced more intense inattention and hyperactivity symptoms than men with ADHD (Fedele et al., 2012). However, the difference between women and men in our analysis has a small effect size, which supports the hypothesis that sex-related differences in ADHD occurrence and symptom severity are less pronounced for adults than for children (Simon et al., 2009).Importantly, we observed a high occurrence of ADHD-like symptoms among gender-diverse individuals. Previous studies have shown that ADHD was more prevalent among transgender adolescents compared to age-matched individuals (A. S. Cheung et al., 2018). Transgender individuals, compared to individuals identifying as cisgender, more frequently reported having ADHD (Bretherton et al., 2021; Dawson et al., 2017). The reported estimates reached values as high as 23% for transmasculine and 26% for non-binary study participants (Leven et al., 2020). A recent systematic review

concluded that evidence suggesting a higher occurrence of ADHD in transgender than cisgender individuals exists; however, the evidence is scarce and thus the authors recommended treating it cautiously (Thrower et al., 2020). This analysis, which is based on a sizable sample of gender-diverse individuals (*n*=2,390) from diverse cultural backgrounds represents an important step in supplementing previously scarce evidence on this subject.

Socioeconomic status. The evaluation of life circumstances as slightly worse by participants reporting higher ADHD symptom severity is consistent with previous studies showing that ADHD in childhood or adolescence may predict economic disadvantage and academic, occupational, and social dysfunction in adulthood (Du Rietz et al., 2017; Galéra et al., 2012; Kooij et al., 2005).

Mental illness, somatic illness, and sexual problems. The positive relationship between ADHD symptoms severity and self-reported mental illness that we observed is supported by previous research (NCCMH UK, 2009) showing adult ADHD to increase the odds of having another mental illness, for example, autism spectrum (Jensen & Steinhausen, 2015), mood and anxiety disorders (Kessler et al., 2006). In our study, ADHD symptoms were not associated with a physical illness, which is in contrast to the meta-analysis that showed co-occurrence of ADHD with asthma, sleep disorders, and obesity, as well as providing evidence for associations with migraine and celiac disease (see: Instanes et al., 2018). The authors point, however, to the relatively poor quality of studies and the need for large systematic studies investigating this topic, which our work helps to provide. At the same time, our study only included a single general question about experienced physical problems, and no objective measures or medical records were employed. Additionally, our results point to adult ADHD's weak positive relation with self-reported sexual problems. This association aligns with a recent systematic review by Soldati and

colleagues (2020) showing that individuals with ADHD report less sexual satisfaction and more sexual dysfunctions, but stronger sexual desire.

In summary, we have provided much needed data on adult ADHD in a multi-national context, including non-Western countries which were previously largely understudied (Fayyad et al., 2017; Gómez-Benito et al., 2019). The study had a very wide scope, as 42 countries, representing six continents and a variety of distinct cultural backgrounds, were included in the analysis. As these data had been lacking in the available literature, the current study can provide a foundation for future research in these countries, while also helping to create scientifically informed screening and diagnostic standards for adult ADHD in multiple populations. On a scientific level, the present results can help establish a more comprehensive and accurate picture of interdependencies between ADHD symptoms and various factors across countries with different cultures, which had also been a knowledge gap, especially in terms of comparing WEIRD and non-WEIRD countries (e.g., Fayyad et al., 2017; Gómez-Benito et al., 2019; Song et al., 2021).

As part of the present project, 26 different language versions of the ASRS Screener were prepared, adapted, and psychometrically examined. These versions are openly available for research and clinical use by other researchers. This allows for further scientific contributions and can facilitate assessment and diagnostic processes in clinical domains. Through providing new scientific results from diverse populations as well as making the assessment tools openly available, the current project can help propel further research on culturally-sensitive interventions for adults with ADHD. Although previous data on this subject were scarce (e.g., Thrower et al., 2020), our findings provide evidence that adult ADHD symptom severity is especially high in gender-diverse individuals. Significant attention to this group in clinical domains seems warranted (Bretherton et al., 2021; Dawson et al., 2017; Leven et al., 2020).

Limitations and Future Directions

Despite significant strengths, the limitations of the current study should be noted. General limitations associated with using ISS data (e.g., convenience sample use, cross-sectional design, online data collection) are described here [GENERAL ISS LIMITATIONS]. Additionally, the analysis is based on self-report, with no additional assessment by a clinician; therefore, the results should be interpreted with caution. The current results should be supplemented in future research involving (1) clinical samples, (2) expert assessment by a clinician, (3) additional ADHD screening measures and a broader palette of measures for convergent and divergent validity investigation (e.g., screening measures for specific co-occurring disorders), (4) representative samples, and (5) longitudinal designs allowing for investigating test-retest reliability. The current analysis should also be replicated with other adult ADHD screening tools (e.g., Ustun et al., 2017).

Conclusions

The present work involved 42 countries and 72,627 participants to investigate cross-cultural differences in adult ADHD. The findings supported inter-cultural stability of a basic adult ADHD symptom structure, as well as the unidimensionality of the ASRS Screener and its high internal consistency and validity. Despite significant cross-national differences, a substantial number of participants in each of the analyzed countries was identified as being at-risk for adult ADHD. This includes some countries previously underrepresented in research (e.g., South Africa, Malaysia), showing the need for developing quality diagnosis, assessment, and treatment for adult ADHD worldwide, particularly in non-Western countries, for which science, assessment, and diagnosis of adult ADHD may be more underdeveloped. At the same time, we caution against the risk of overestimating adult ADHD based solely on self-report screening tools, which should be supplemented by additional information from clinical evaluations for adequate

differential diagnosis and assessment of early ADHD onset. Notably, the increased risk among the minority groups like gender-diverse individuals was suggested, which supports a need for further research on adult ADHD in these individuals. As part of the current project, 26 language versions of the ASRS Screener were prepared and psychometrically examined and are freely and openly available as part of the current project documentation. Altogether, the findings of the current project can contribute to significant advancements in adult ADHD assessment standards, including among groups underrepresented in previous research.

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Tables

Table 1

Participants' Sociodemographic Characteristics

Variable	*N*=72,627	%
Country		
Algeria	19	0.03
Australia	565	0.78
Austria	684	0.94
Bangladesh	254	0.35
Belgium	584	0.80
Bolivia	325	0.45
Brazil	3,222	4.44
Canada	2,278	3.14
Chile	1,083	1.49
China	2,339	3.22
Colombia	1,707	2.35
Croatia	2,096	2.89
Czech Republic	1,518	2.09
Ecuador	235	0.32
France	1,526	2.10
Germany	3,015	4.15
Gibraltar	44	0.06
Hungary	9,887	13.61
India	147	0.20
Iraq	83	0.11
Ireland	1,449	2.00
Israel	1,164	1.60
Italy	2,015	2.77
Japan	493	0.68
Lithuania	1,813	2.50
Malaysia	1,082	1.49
Mexico	1,854	2.55
New Zealand	2,524	3.48
North Macedonia	1,089	1.50
Panama	282	0.39
Peru	2,321	3.20
Poland	8,231	11.33
Portugal	1,997	2.75
Slovakia	967	1.33
South Africa	1,644	2.26
South Korea	1,318	1.81
Spain	2,091	2.88
Switzerland	1,068	1.47
Taiwan	2,604	3.59
Turkey	674	0.93
United Kingdom	1,245	1.71
United States of America	2,104	2.90
Other	987	1.36
Language		
Arabic	120	0.17
Bangla	227	0.31
Croatian	2,211	3.04
Czech	1,472	2.03
Dutch	467	0.64
English	12,258	16.88
French	3,587	4.94
German	3,238	4.46
Hebrew	1,145	1.58
Hindi	12	0.02
Hungarian	9,681	13.33
Italian	2,043	2.81
Japanese	406	0.56
Korean	1,293	1.78
Lithuanian	1,888	2.60
Macedonian	1,134	1.56

Mandarin - Simplified	2,385	3.28
Mandarin - Traditional	2,618	3.60
Polish	8,623	11.87
Portuguese - Brazil	3,289	4.53
Portuguese - Portugal	2,002	2.76
Romanian	64	0.09
Slovak	1,835	2.53
Spanish - Latin America	7,844	10.80
Spanish - Spain	2,079	2.86
Turkish	706	0.97
Sex at birth		
Female	43,150	59.41
Male	29,477	40.59
Gender		
Woman	41,360	56.95
Man	28,877	39.76
Gender diverse individual	2,390	3.29
Sexual orientation		
Heterosexual	50,098	68.98
Gay or lesbian	4,110	5.66
Bi+	9,152	12.60
Homo- and heteroflexible identities	5,942	8.18
Asexual	953	1.31
Questioning or other	2,372	3.27
Highest level of education		
Primary (e.g., elementary school)	437	0.60
Secondary (e.g., high school)	17,166	23.64
Tertiary (e.g., college or university)	55,024	75.76
Currently being in education		
Yes, in primary education (e.g., elementary school)	53	0.07
Yes, in secondary education (e.g., high school)	0	0.00
Yes, in tertiary education (e.g., college or university)	27,441	37.78
No	45,133	62.14
Work status		
Yes, full time	38,651	53.22
Yes, part-time	10,038	13.82
Yes, I do odd jobs	6,057	8.34
No	17,881	24.62
Socioeconomic status		
My life circumstances are among the best	3,514	4.84
My life circumstances are much better than average	27,975	38.52
My life circumstances are better than average	13,062	17.99
My life circumstances are average	23,515	32.38
My life circumstances are worse than average	3,724	5.13
My life circumstances are much worse than average	652	0.90
My life circumstances are among the worst	185	0.25
Residence		
Metropolis (population is over 1 million people)	23,751	32.70
City (population is between 100,000-999,999 people)	26,529	36.53
Town (population is between 1,000-99,999 people)	18,315	25.22
Village (population is below 1,000 people)	4,032	5.55
Relationship status		
Married or common-law partners	22,000	30.29
In a relationship	23,884	32.89
Widow or widower	393	0.54
Divorced	2,272	3.13
Single	24,078	33.15
Having children		
Yes, 1	7,589	10.45
Yes, 2	9,412	12.96
Yes, 3	3,498	4.82
Yes, 4	938	1.29
Yes, 5	264	0.36
Yes, 6-9	116	0.16
Yes, 10 or more	15	0.02
No	50,795	69.94
	M	*SD*
Age	32.84	12.57

Note. *M*=mean; *SD*=standard deviation.

Table 2

Descriptive Statistics, Standardized Factor Loadings in the Confirmatory Factor Analysis, and Reliability Metrics of the ASRS Screener

Item	Range	*M*	*SD*	*SE*	*Skew.*	*Kurt.*	λ
ASRS-1	0-4	1.605	1.069	0.004	0.329	-0.526	.662
ASRS-2	0-4	1.441	1.070	0.004	0.492	-0.392	.751
ASRS-3	0-4	1.929	1.172	0.004	0.103	-0.842	.648
ASRS-4	0-4	1.395	1.101	0.004	0.594	-0.322	.562
ASRS-5	0-4	2.105	1.259	0.005	-0.046	-1.047	.424
ASRS-6	0-4	1.505	1.117	0.004	0.393	-0.568	.304
Total Score	0-24	9.979	4.425	0.016	0.299	-0.095	-

Note. All factor loadings were statistically significant at $p<.001$.
M=mean; *SD*=standard deviation; *SE*=standard error; *Skew.*=skewness; *Kurt.*=kurtosis; λ=standardized factor loading.

Table 3

Percentages of Participants who Scored Lower or Higher Than the Pre-Established Cut-off Value for the ASRS Screener

	Below Threshold (*n*=57,426, 79.07%)		At or Above Threshold (*n*=15,201, 20.93%)	
Country	*n*	%	*n*	%
Algeria	18	94.74	1	5.26
Australia	415	73.45	150	26.55
Austria	587	85.82	97	14.18
Bangladesh	188	74.02	66	25.98
Belgium	477	81.68	107	18.32
Bolivia	217	66.77	108	33.23
Brazil	2,556	79.33	666	20.67
Canada	1,571	68.96	707	31.04
Chile	791	73.04	292	26.96
China	1,910	81.66	429	18.34
Colombia	1,302	76.27	405	23.73
Croatia	1,651	78.77	445	21.23
Czech Republic	1,382	91.04	136	8.96
Ecuador	182	77.45	53	22.55
France	1,137	74.51	389	25.49
Germany	2,713	89.98	302	10.02
Gibraltar	35	79.55	9	20.45
Hungary	8,354	84.49	1,533	15.51
India	117	79.59	30	20.41
Iraq	61	73.49	22	26.51
Ireland	1,032	71.22	417	28.78
Israel	997	85.65	167	14.35
Italy	1,668	82.78	347	17.22
Japan	371	75.25	122	24.75
Lithuania	1,548	85.38	265	14.62
Malaysia	791	73.11	291	26.89
Mexico	1,367	73.73	487	26.27
New Zealand	1,806	71.55	718	28.45
North Macedonia	945	86.78	144	13.22
Panama	221	78.37	61	21.63
Peru	1,827	78.72	494	21.28
Poland	6,407	77.84	1,824	22.16
Portugal	1,569	78.57	428	21.43
Slovakia	744	76.94	223	23.06
South Africa	1,157	70.38	487	29.62
South Korea	1,092	82.85	226	17.15
Spain	1,634	78.14	457	21.86
Switzerland	829	77.62	239	22.38
Taiwan	2,245	86.21	359	13.79
Turkey	507	75.22	167	24.78
United Kingdom	896	71.97	349	28.03
United States of America	1,370	65.11	734	34.89
Other	739	74.87	248	25.13

Figures

Figure 1

ASRS Screener Mean Scores in Respective Countries Included in Measurement Invariance Tests: Empirical (Unadjusted) and Adjusted for Age and Gender

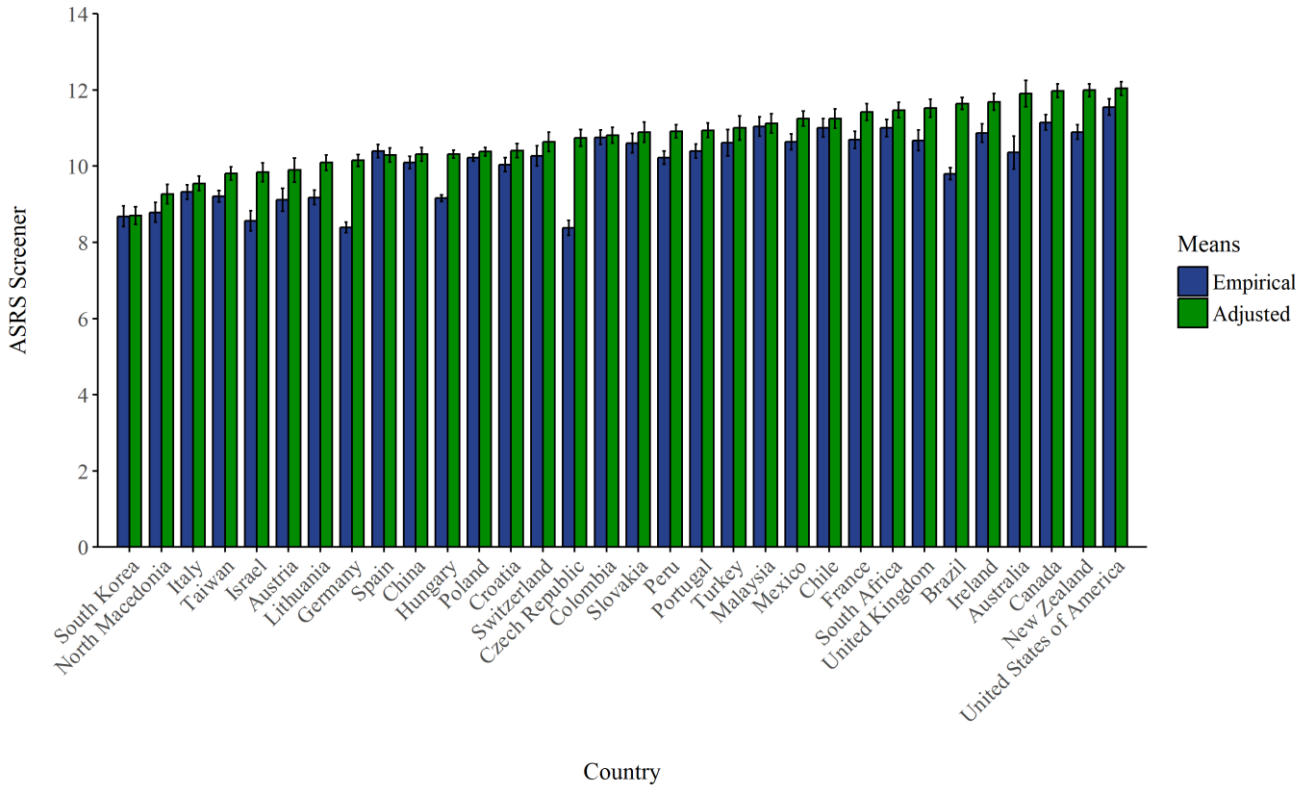
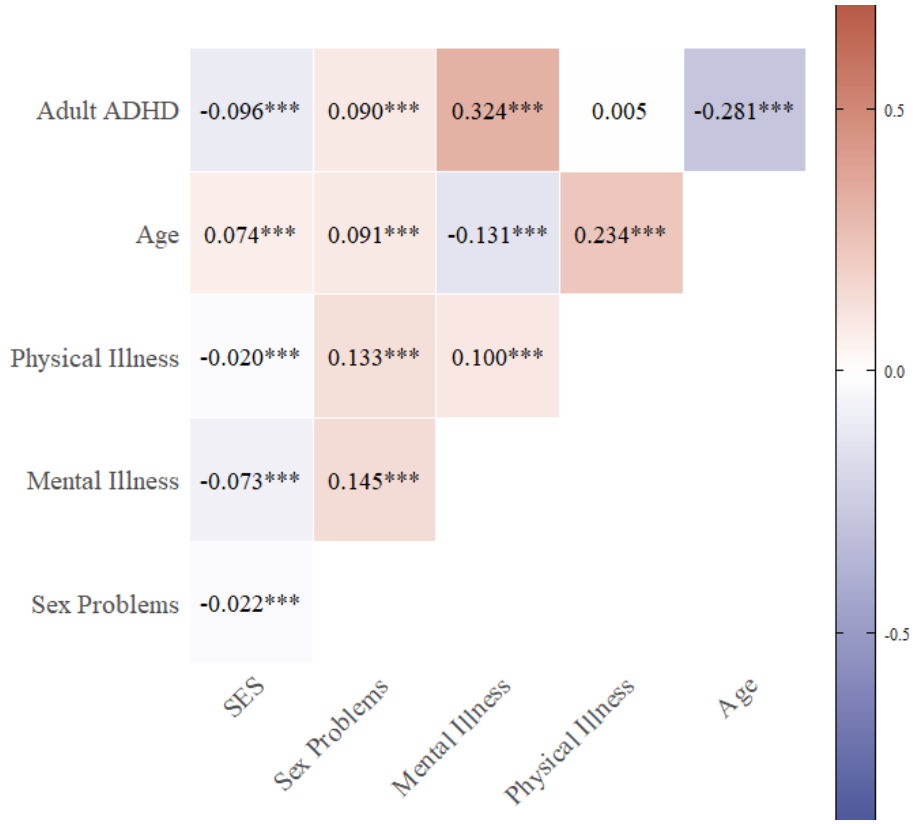


Figure 2

Associations Between Adult ADHD Symptoms and Selected Factors (Pearson's r*)*



Note. SES=Socioeconomic status.

*** $p<.001$

Supplemental Materials

Table S1

Descriptive Statistics of the ASRS Screener in Countries Included in the Measurement Invariance Tests

Country	*n*	*M (SD)*	*M adj. 95% CI*	*Min.*	*Max.*
Australia	564	10.36 (5.20)	11.91 [11.56, 12.26]	0	24
Austria	682	9.12 (4.02)	9.90 [9.58, 10.21]	0	24
Brazil	3222	9.80 (4.58)	11.64 [11.49, 11.80]	0	24
Canada	2275	11.15 (4.88)	11.98 [11.80, 12.15]	0	24
Chile	1083	11.01 (4.09)	11.25 [11.00, 11.50]	0	23
China	2339	10.10 (3.98)	10.31 [10.14, 10.49]	0	24
Colombia	1707	10.76 (4.03)	10.81 [10.61, 11.02]	0	24
Croatia	2096	10.04 (4.29)	10.41 [10.22, 10.60]	0	24
Czech Republic	1518	8.38 (3.91)	10.75 [10.53, 10.97]	0	22
France	1525	10.69 (4.51)	11.42 [11.21, 11.64]	0	24
Germany	3009	8.39 (3.85)	10.15 [9.99, 10.31]	0	22
Hungary	9885	9.16 (4.21)	10.32 [10.22, 10.42]	0	24
Ireland	1448	10.87 (4.70)	11.69 [11.47, 11.91]	0	24
Israel	1159	8.57 (4.57)	9.84 [9.59, 10.08]	0	24
Italy	2013	9.32 (4.37)	9.55 [9.36, 9.74]	0	24
Lithuania	1813	9.18 (4.13)	10.09 [9.90, 10.29]	0	24
Malaysia	1081	11.04 (4.20)	11.12 [10.87, 11.38]	0	24
Mexico	1854	10.64 (4.51)	11.25 [11.05, 11.44]	0	24
New Zealand	2522	10.90 (4.74)	12.00 [11.83, 12.17]	0	24
North Macedonia	1089	8.79 (4.28)	9.26 [9.01, 9.52]	0	23
Peru	2321	10.22 (4.13)	10.92 [10.74, 11.09]	0	24
Poland	8230	10.23 (4.29)	10.38 [10.27, 10.49]	0	24
Portugal	1997	10.40 (4.08)	10.94 [10.75, 11.13]	0	24
Slovakia	966	10.60 (3.98)	10.89 [10.63, 11.16]	1	24
South Africa	1644	11.00 (4.69)	11.47 [11.27, 11.68]	0	24
South Korea	1317	8.68 (4.96)	8.71 [8.48, 8.94]	0	24
Spain	2091	10.40 (3.99)	10.30 [10.11, 10.48]	0	24
Switzerland	1066	10.27 (4.42)	10.64 [10.39, 10.90]	0	24
Taiwan	2604	9.21 (3.96)	9.81 [9.64, 9.98]	0	24
Turkey	673	10.61 (4.56)	11.01 [10.69, 11.32]	0	24
United Kingdom	1243	10.68 (4.84)	11.52 [11.29, 11.76]	0	24
United States of America	2103	11.55 (5.04)	12.04 [11.86, 12.22]	0	24

Note. *n* = group sample size; *M* = mean; *M adj.* = marginal means adjusted for gender and age; *Min.* = minimum; *Max.* = maximum.
Values in round and box brackets represent standard deviations and 95% Confidence Intervals, respectively.

Table S2

Country-Based Pairwise Comparisons of the ASRS Screener Performed With the t*-test Across Countries Included in Measurement Invariance Tests*

Comparison	*t*	*p*	*p adj.*	*Δ*	*d*
Australia - Austria	4.64	< .001	< .001	1.24	0.27
Australia - Brazil	2.39	.02	.02	0.56	0.11
Australia - Canada	-3.26	< .001	< .001	-0.79	-0.16
Australia - Chile	-2.57	.01	.01	-0.65	-0.14
Australia - China	1.10	.27	.31	0.26	0.06
Australia - Colombia	-1.65	.1	.12	-0.40	-0.09
Australia - Croatia	1.33	.18	.22	0.32	0.07
Australia - Czech Republic	8.22	< .001	< .001	1.98	0.43
Australia - France	-1.34	.18	.21	-0.33	-0.07
Australia - Germany	8.58	< .001	< .001	1.97	0.43
Australia - Hungary	5.39	< .001	< .001	1.20	0.25
Australia - Ireland	-2.01	.04	.06	-0.51	-0.10
Australia - Israel	6.98	< .001	< .001	1.79	0.37
Australia - Italy	4.33	< .001	< .001	1.04	0.22
Australia - Lithuania	4.94	< .001	< .001	1.18	0.25
Australia - Malaysia	-2.70	.01	.01	-0.68	-0.14
Australia - Mexico	-1.16	.25	.28	-0.28	-0.06
Australia - New Zealand	-2.26	.02	.03	-0.54	-0.11
Australia - North Macedonia	6.17	< .001	< .001	1.57	0.33
Australia - Peru	0.57	.57	.6	0.14	0.03
Australia - Poland	0.59	.55	.59	0.13	0.03
Australia - Portugal	-0.15	.88	.89	-0.04	-0.01
Australia - Slovakia	-0.96	.34	.38	-0.24	-0.05
Australia - South Africa	-2.60	.01	.01	-0.64	-0.13
Australia - South Korea	6.49	< .001	< .001	1.68	0.33
Australia - Spain	-0.16	.88	0.89	-0.04	-0.01
Australia - Switzerland	0.36	.72	0.75	0.09	0.02
Australia - Taiwan	4.95	< .001	< .001	1.15	0.25
Australia - Turkey	-0.90	.37	.41	-0.25	-0.05
Australia - United Kingdom	-1.23	.22	.26	-0.32	-0.06
Australia - United States of America	-4.87	< .001	< .001	-1.19	-0.23
Austria - Brazil	-3.94	< .001	< .001	-0.68	-0.16
Austria - Canada	-10.99	< .001	< .001	-2.03	-0.45
Austria - Chile	-9.55	< .001	< .001	-1.89	-0.47
Austria - China	-5.64	< .001	< .001	-0.98	-0.25
Austria - Colombia	-8.99	< .001	< .001	-1.64	-0.41
Austria - Croatia	-5.13	< .001	< .001	-0.92	-0.22
Austria - Czech Republic	4.02	< .001	< .001	0.74	0.19
Austria - France	-8.18	< .001	< .001	-1.57	-0.37
Austria - Germany	4.33	< .001	< .001	0.73	0.19
Austria - Hungary	-0.25	.8	.82	-0.04	-0.01
Austria - Ireland	-8.86	< .001	< .001	-1.75	-0.40
Austria - Israel	2.70	.01	.01	0.55	0.13
Austria - Italy	-1.11	.27	.3	-0.20	-0.05
Austria - Lithuania	-0.32	.75	.78	-0.06	-0.01
Austria - Malaysia	-9.62	< .001	< .001	-1.92	-0.47
Austria - Mexico	-8.18	< .001	< .001	-1.52	-0.36
Austria - New Zealand	-9.86	< .001	< .001	-1.78	-0.41
Austria - North Macedonia	1.64	.1	.12	0.33	0.08
Austria - Peru	-6.28	< .001	< .001	-1.11	-0.27
Austria - Poland	-6.89	< .001	< .001	-1.11	-0.27
Austria - Portugal	-7.14	< .001	< .001	-1.28	-0.32
Austria - Slovakia	-7.42	< .001	< .001	-1.48	-0.37
Austria - South Africa	-9.79	< .001	< .001	-1.88	-0.43
Austria - South Korea	2.11	.04	.05	0.43	0.10
Austria - Spain	-7.23	< .001	< .001	-1.28	-0.32
Austria - Switzerland	-5.60	< .001	< .001	-1.15	-0.27
Austria - Taiwan	-0.53	.6	.63	-0.09	-0.02
Austria - Turkey	-6.40	< .001	< .001	-1.49	-0.35
Austria - United Kingdom	-7.56	< .001	< .001	-1.56	-0.35

Austria - United States of America	-12.88	< .001	< .001	-2.43	-0.53
Brazil - Canada	-10.33	< .001	< .001	-1.35	-0.28
Brazil - Chile	-8.13	< .001	< .001	-1.20	-0.28
Brazil - China	-2.60	.01	.01	-0.30	-0.07
Brazil - Colombia	-7.53	< .001	< .001	-0.95	-0.22
Brazil - Croatia	-1.95	.05	.07	-0.24	-0.05
Brazil - Czech Republic	11.04	< .001	< .001	1.42	0.33
Brazil - France	-6.32	< .001	< .001	-0.89	-0.20
Brazil - Germany	13.24	< .001	< .001	1.42	0.33
Brazil - Hungary	7.06	< .001	< .001	0.64	0.15
Brazil - Ireland	-7.21	< .001	< .001	-1.06	-0.23
Brazil - Israel	7.90	< .001	< .001	1.24	0.27
Brazil - Italy	3.80	< .001	< .001	0.48	0.11
Brazil - Lithuania	4.96	< .001	< .001	0.63	0.14
Brazil - Malaysia	-8.21	< .001	< .001	-1.24	-0.28
Brazil - Mexico	-6.34	< .001	< .001	-0.84	-0.18
Brazil - New Zealand	-8.82	< .001	< .001	-1.10	-0.24
Brazil - North Macedonia	6.63	< .001	< .001	1.01	0.23
Brazil - Peru	-3.59	< .001	< .001	-0.42	-0.10
Brazil - Poland	-4.54	< .001	< .001	-0.42	-0.10
Brazil - Portugal	-4.87	< .001	< .001	-0.59	-0.14
Brazil - Slovakia	-5.29	< .001	< .001	-0.80	-0.19
Brazil - South Africa	-8.52	< .001	< .001	-1.20	-0.26
Brazil - South Korea	7.05	< .001	< .001	1.12	0.23
Brazil - Spain	-5.00	< .001	< .001	-0.59	-0.14
Brazil - Switzerland	-2.94	< .001	< .001	-0.46	-0.10
Brazil - Taiwan	5.29	< .001	< .001	0.59	0.14
Brazil - Turkey	-4.19	< .001	< .001	-0.81	-0.18
Brazil - United Kingdom	-5.49	< .001	< .001	-0.87	-0.19
Brazil - United States of America	-12.84	< .001	< .001	-1.75	-0.36
Canada - Chile	0.87	.38	.42	0.14	0.03
Canada - China	7.97	< .001	< .001	1.05	0.23
Canada - Colombia	2.78	.01	.01	0.39	0.09
Canada - Croatia	7.96	< .001	< .001	1.10	0.24
Canada - Czech Republic	19.31	< .001	< .001	2.77	0.63
Canada - France	2.96	< .001	< .001	0.46	0.10
Canada - Germany	22.26	< .001	< .001	2.76	0.63
Canada - Hungary	17.97	< .001	< .001	1.99	0.44
Canada - Ireland	1.76	.08	.1	0.28	0.06
Canada - Israel	15.30	< .001	< .001	2.58	0.55
Canada - Italy	12.93	< .001	< .001	1.83	0.39
Canada - Lithuania	13.98	< .001	< .001	1.97	0.44
Canada - Malaysia	0.64	.52	.56	0.10	0.02
Canada - Mexico	3.47	< .001	< .001	0.51	0.11
Canada - New Zealand	1.80	.07	.09	0.25	0.05
Canada - North Macedonia	14.27	< .001	< .001	2.36	0.51
Canada - Peru	6.92	< .001	< .001	0.92	0.20
Canada - Poland	8.17	< .001	< .001	0.92	0.20
Canada - Portugal	5.48	< .001	< .001	0.75	0.17
Canada - Slovakia	3.33	< .001	< .001	0.55	0.12
Canada - South Africa	0.94	.35	.39	0.14	0.03
Canada - South Korea	14.43	< .001	< .001	2.46	0.50
Canada - Spain	5.59	< .001	< .001	0.75	0.17
Canada - Switzerland	5.20	< .001	< .001	0.88	0.19
Canada - Taiwan	15.10	< .001	< .001	1.94	0.44
Canada - Turkey	2.64	.01	.01	0.54	0.11
Canada - United Kingdom	2.75	.01	.01	0.47	0.10
Canada - United States of America	-2.69	.01	.01	-0.40	-0.08
Chile - China	6.07	< .001	< .001	0.90	0.22
Chile - Colombia	1.59	.11	.13	0.25	0.06
Chile - Croatia	6.19	< .001	< .001	0.96	0.23
Chile - Czech Republic	16.44	< .001	< .001	2.63	0.66
Chile - France	1.86	.06	.08	0.32	0.07
Chile - Germany	18.36	< .001	< .001	2.62	0.66
Chile - Hungary	14.08	< .001	< .001	1.85	0.45
Chile - Ireland	0.81	.42	.46	0.14	0.03
Chile - Israel	13.35	< .001	< .001	2.44	0.56
Chile - Italy	10.68	< .001	< .001	1.69	0.40
Chile - Lithuania	11.61	< .001	< .001	1.83	0.45
Chile - Malaysia	-0.20	.84	.86	-0.04	-0.01

Chile - Mexico	2.26	.02	.03	0.37	0.09
Chile - New Zealand	0.70	.48	.52	0.11	0.02
Chile - North Macedonia	12.34	< .001	< .001	2.22	0.53
Chile - Peru	5.18	< .001	< .001	0.78	0.19
Chile - Poland	5.87	< .001	< .001	0.78	0.19
Chile - Portugal	3.96	< .001	< .001	0.61	0.15
Chile - Slovakia	2.27	.02	.03	0.40	0.10
Chile - South Africa	0.02	.98	.98	0.00	0.00
Chile - South Korea	12.58	< .001	< .001	2.32	0.51
Chile - Spain	4.02	< .001	< .001	0.61	0.15
Chile - Switzerland	4.03	< .001	< .001	0.74	0.17
Chile - Taiwan	12.27	< .001	< .001	1.80	0.45
Chile - Turkey	1.84	.07	.08	0.40	0.09
Chile - United Kingdom	1.79	.07	.09	0.33	0.07
Chile - United States of America	-3.29	< .001	< .001	-0.55	-0.12
China - Colombia	-5.12	< .001	< .001	-0.65	-0.16
China - Croatia	0.47	.64	.67	0.06	0.01
China - Czech Republic	13.27	< .001	< .001	1.72	0.44
China - France	-4.16	< .001	< .001	-0.59	-0.14
China - Germany	15.87	< .001	< .001	1.72	0.44
China - Hungary	10.20	< .001	< .001	0.94	0.23
China - Ireland	-5.14	< .001	< .001	-0.76	-0.18
China - Israel	9.76	< .001	< .001	1.54	0.36
China - Italy	6.13	< .001	< .001	0.78	0.19
China - Lithuania	7.28	< .001	< .001	0.93	0.23
China - Malaysia	-6.19	< .001	< .001	-0.94	-0.23
China - Mexico	-4.04	< .001	< .001	-0.54	-0.13
China - New Zealand	-6.35	< .001	< .001	-0.80	-0.18
China - North Macedonia	8.55	< .001	< .001	1.31	0.32
China - Peru	-1.03	.3	.34	-0.12	-0.03
China - Poland	-1.32	.19	.22	-0.12	-0.03
China - Portugal	-2.39	.02	.02	-0.29	-0.07
China - Slovakia	-3.29	< .001	< .001	-0.50	-0.13
China - South Africa	-6.35	< .001	< .001	-0.90	-0.21
China - South Korea	8.89	< .001	< .001	1.42	0.32
China - Spain	-2.45	0.01	0.02	-0.29	-0.07
China - Switzerland	-1.03	.3	.34	-0.16	-0.04
China - Taiwan	7.89	< .001	< .001	0.89	0.22
China - Turkey	-2.63	.01	.01	-0.51	-0.12
China - United Kingdom	-3.59	< .001	< .001	-0.57	-0.13
China - United States of America	-10.57	< .001	< .001	-1.45	-0.32
Colombia - Croatia	5.27	< .001	< .001	0.71	0.17
Colombia - Czech Republic	16.97	< .001	< .001	2.37	0.60
Colombia - France	0.42	.67	.71	0.06	0.01
Colombia - Germany	19.72	< .001	< .001	2.37	0.60
Colombia - Hungary	15.02	< .001	< .001	1.60	0.39
Colombia - Ireland	-0.70	.48	.52	-0.11	-0.03
Colombia - Israel	13.20	< .001	< .001	2.19	0.51
Colombia - Italy	10.41	< .001	< .001	1.43	0.34
Colombia - Lithuania	11.48	< .001	< .001	1.58	0.39
Colombia - Malaysia	-1.79	.07	.09	-0.29	-0.07
Colombia - Mexico	0.81	.42	.46	0.12	0.03
Colombia - New Zealand	-1.05	.3	.33	-0.14	-0.03
Colombia - North Macedonia	12.11	< .001	< .001	1.97	0.47
Colombia - Peru	4.09	< .001	< .001	0.53	0.13
Colombia - Poland	4.88	< .001	< .001	0.53	0.13
Colombia - Portugal	2.69	.01	.01	0.36	0.09
Colombia - Slovakia	0.95	.34	.38	0.15	0.04
Colombia - South Africa	-1.64	.1	.12	-0.25	-0.06
Colombia - South Korea	12.34	< .001	< .001	2.07	0.46
Colombia - Spain	2.74	0.01	0.01	0.36	0.09
Colombia - Switzerland	2.93	< .001	< .001	0.49	0.12
Colombia - Taiwan	12.41	< .001	< .001	1.55	0.39
Colombia - Turkey	0.71	.48	.52	0.14	0.03
Colombia - United Kingdom	0.47	.64	.67	0.08	0.02
Colombia - United States of America	-5.43	< .001	< .001	-0.80	-0.17
Croatia - Czech Republic	12.11	< .001	< .001	1.66	0.40
Croatia - France	-4.36	< .001	< .001	-0.65	-0.15
Croatia - Germany	14.15	< .001	< .001	1.66	0.41
Croatia - Hungary	8.60	< .001	< .001	0.88	0.21

Croatia - Ireland	-5.30	< .001	< .001	-0.82	-0.18
Croatia - Israel	9.02	< .001	< .001	1.48	0.33
Croatia - Italy	5.34	< .001	< .001	0.72	0.17
Croatia - Lithuania	6.42	< .001	< .001	0.87	0.21
Croatia - Malaysia	-6.31	< .001	< .001	-1.00	-0.24
Croatia - Mexico	-4.25	< .001	< .001	-0.60	-0.14
Croatia - New Zealand	-6.42	< .001	< .001	-0.85	-0.19
Croatia - North Macedonia	7.83	< .001	< .001	1.25	0.29
Croatia - Peru	-1.43	.15	.18	-0.18	-0.04
Croatia - Poland	-1.75	.08	.1	-0.18	-0.04
Croatia - Portugal	-2.70	.01	.01	-0.35	-0.08
Croatia - Slovakia	-3.52	< .001	< .001	-0.56	-0.14
Croatia - South Africa	-6.45	< .001	< .001	-0.96	-0.21
Croatia - South Korea	8.20	< .001	< .001	1.36	0.29
Croatia - Spain	-2.76	.01	.01	-0.35	-0.09
Croatia - Switzerland	-1.35	.18	.21	-0.22	-0.05
Croatia - Taiwan	6.85	< .001	< .001	0.83	0.20
Croatia - Turkey	-2.86	< .001	.01	-0.57	-0.13
Croatia - United Kingdom	-3.81	< .001	< .001	-0.63	-0.14
Croatia - United States of America	-10.45	< .001	< .001	-1.51	-0.32
Czech Republic - France	-15.11	< .001	< .001	-2.31	-0.55
Czech Republic - Germany	-0.05	.96	.97	-0.01	0.00
Czech Republic - Hungary	-7.14	< .001	< .001	-0.78	-0.19
Czech Republic - Ireland	-15.61	< .001	< .001	-2.48	-0.57
Czech Republic - Israel	-1.11	.27	.31	-0.19	-0.04
Czech Republic - Italy	-6.72	< .001	< .001	-0.94	-0.23
Czech Republic - Lithuania	-5.71	< .001	< .001	-0.80	-0.20
Czech Republic - Malaysia	-16.38	< .001	< .001	-2.66	-0.66
Czech Republic - Mexico	-15.58	< .001	< .001	-2.26	-0.54
Czech Republic - New Zealand	-18.27	< .001	< .001	-2.52	-0.58
Czech Republic - North Macedonia	-2.48	.01	.02	-0.41	-0.10
Czech Republic - Peru	-13.97	< .001	< .001	-1.84	-0.46
Czech Republic - Poland	-16.65	< .001	< .001	-1.85	-0.45
Czech Republic - Portugal	-14.85	< .001	< .001	-2.02	-0.50
Czech Republic - Slovakia	-13.66	< .001	< .001	-2.22	-0.56
Czech Republic - South Africa	-17.12	< .001	< .001	-2.62	-0.61
Czech Republic - South Korea	-1.79	.07	.09	-0.30	-0.07
Czech Republic - Spain	-15.15	< .001	< .001	-2.02	-0.51
Czech Republic - Switzerland	-11.19	< .001	< .001	-1.88	-0.45
Czech Republic - Taiwan	-6.53	< .001	< .001	-0.83	-0.21
Czech Republic - Turkey	-11.03	< .001	< .001	-2.23	-0.53
Czech Republic - United Kingdom	-13.50	< .001	< .001	-2.30	-0.52
Czech Republic - United States of America	-21.32	< .001	< .001	-3.17	-0.70
France - Germany	17.06	< .001	< .001	2.30	0.55
France - Hungary	12.47	< .001	< .001	1.53	0.35
France - Ireland	-1.03	.3	.34	-0.17	-0.04
France - Israel	12.01	< .001	< .001	2.12	0.47
France - Italy	9.07	< .001	< .001	1.37	0.31
France - Lithuania	10.05	< .001	< .001	1.51	0.35
France - Malaysia	-2.04	.04	.05	-0.35	-0.08
France - Mexico	0.33	.74	.77	0.05	0.01
France - New Zealand	-1.38	.17	.2	-0.21	-0.04
France - North Macedonia	10.95	< .001	< .001	1.90	0.43
France - Peru	3.25	< .001	< .001	0.47	0.11
France - Poland	3.72	< .001	< .001	0.46	0.11
France - Portugal	2.01	.04	.06	0.30	0.07
France - Slovakia	0.52	.6	.64	0.09	0.02
France - South Africa	-1.91	.06	.07	-0.31	-0.07
France - South Korea	11.22	< .001	< .001	2.01	0.42
France - Spain	2.04	.04	.05	0.29	0.07
France - Switzerland	2.39	.02	.02	0.43	0.10
France - Taiwan	10.65	< .001	< .001	1.48	0.35
France - Turkey	0.38	.7	.74	0.08	0.02
France - United Kingdom	0.08	.93	.94	0.02	0.00
France - United States of America	-5.40	< .001	< .001	-0.86	-0.18
Germany - Hungary	-9.42	< .001	< .001	-0.77	-0.19
Germany - Ireland	-17.44	< .001	< .001	-2.48	-0.58
Germany - Israel	-1.18	.24	.27	-0.18	-0.04
Germany - Italy	-7.78	< .001	< .001	-0.93	-0.23
Germany - Lithuania	-6.60	< .001	< .001	-0.79	-0.20

Germany - Malaysia	-18.21	< .001	< .001	-2.66	-0.66
Germany - Mexico	-17.88	< .001	< .001	-2.25	-0.54
Germany - New Zealand	-21.35	< .001	< .001	-2.51	-0.58
Germany - North Macedonia	-2.72	.01	.01	-0.40	-0.10
Germany - Peru	-16.58	< .001	< .001	-1.84	-0.46
Germany - Poland	-21.75	< .001	< .001	-1.84	-0.45
Germany - Portugal	-17.44	< .001	< .001	-2.01	-0.51
Germany - Slovakia	-15.18	< .001	< .001	-2.21	-0.57
Germany - South Africa	-19.34	< .001	< .001	-2.62	-0.61
Germany - South Korea	-1.93	.05	.07	-0.30	-0.07
Germany - Spain	-17.94	< .001	< .001	-2.01	-0.51
Germany - Switzerland	-12.33	< .001	< .001	-1.88	-0.45
Germany - Taiwan	-7.86	< .001	< .001	-0.82	-0.21
Germany - Turkey	-11.77	< .001	< .001	-2.22	-0.53
Germany - United Kingdom	-14.85	< .001	< .001	-2.29	-0.52
Germany - United States of America	-24.29	< .001	< .001	-3.17	-0.71
Hungary - Ireland	-13.07	< .001	< .001	-1.71	-0.38
Hungary - Israel	4.21	< .001	< .001	0.59	0.13
Hungary - Italy	-1.53	.13	.15	-0.16	-0.04
Hungary - Lithuania	-0.17	.86	.88	-0.02	0.00
Hungary - Malaysia	-13.99	< .001	< .001	-1.88	-0.45
Hungary - Mexico	-13.12	< .001	< .001	-1.48	-0.34
Hungary - New Zealand	-16.82	< .001	< .001	-1.74	-0.39
Hungary - North Macedonia	2.71	.01	.01	0.37	0.09
Hungary - Peru	-11.14	< .001	< .001	-1.07	-0.26
Hungary - Poland	-16.84	< .001	< .001	-1.07	-0.25
Hungary - Portugal	-12.29	< .001	< .001	-1.24	-0.30
Hungary - Slovakia	-10.71	< .001	< .001	-1.44	-0.35
Hungary - South Africa	-14.98	< .001	< .001	-1.84	-0.41
Hungary - South Korea	3.32	< .001	< .001	0.47	0.10
Hungary - Spain	-12.76	< .001	< .001	-1.24	-0.30
Hungary - Switzerland	-7.81	< .001	< .001	-1.11	-0.26
Hungary - Taiwan	-0.58	.56	.6	-0.05	-0.01
Hungary - Turkey	-8.05	< .001	< .001	-1.45	-0.33
Hungary - United Kingdom	-10.56	< .001	< .001	-1.52	-0.33
Hungary - United States of America	-20.34	< .001	< .001	-2.39	-0.52
Ireland - Israel	12.61	< .001	< .001	2.30	0.50
Ireland - Italy	9.82	< .001	< .001	1.54	0.34
Ireland - Lithuania	10.75	< .001	< .001	1.69	0.38
Ireland - Malaysia	-1.00	.32	.36	-0.18	-0.04
Ireland - Mexico	1.39	.16	.19	0.23	0.05
Ireland - New Zealand	-0.20	.84	.86	-0.03	-0.01
Ireland - North Macedonia	11.59	< .001	< .001	2.08	0.46
Ireland - Peru	4.26	< .001	< .001	0.64	0.14
Ireland - Poland	4.83	< .001	< .001	0.64	0.14
Ireland - Portugal	3.05	< .001	< .001	0.47	0.11
Ireland - Slovakia	1.48	.14	.17	0.26	0.06
Ireland - South Africa	-0.81	.42	.46	-0.14	-0.03
Ireland - South Korea	11.84	< .001	< .001	2.18	0.45
Ireland - Spain	3.10	< .001	< .001	0.47	0.11
Ireland - Switzerland	3.27	< .001	< .001	0.60	0.13
Ireland - Taiwan	11.35	< .001	< .001	1.66	0.38
Ireland - Turkey	1.18	.24	.27	0.25	0.05
Ireland - United Kingdom	1.03	.3	.34	0.19	0.04
Ireland - United States of America	-4.15	< .001	< .001	-0.69	-0.14
Israel - Italy	-4.55	< .001	< .001	-0.75	-0.17
Israel - Lithuania	-3.69	< .001	< .001	-0.61	-0.14
Israel - Malaysia	-13.36	< .001	< .001	-2.48	-0.56
Israel - Mexico	-12.19	< .001	< .001	-2.07	-0.46
Israel - New Zealand	-14.21	< .001	< .001	-2.33	-0.50
Israel - North Macedonia	-1.19	.23	.27	-0.22	-0.05
Israel - Peru	-10.41	< .001	< .001	-1.66	-0.38
Israel - Poland	-11.68	< .001	< .001	-1.66	-0.37
Israel - Portugal	-11.27	< .001	< .001	-1.83	-0.42
Israel - Slovakia	-10.98	< .001	< .001	-2.04	-0.48
Israel - South Africa	-13.76	< .001	< .001	-2.44	-0.53
Israel - South Korea	-0.61	.54	.58	-0.12	-0.02
Israel - Spain	-11.43	< .001	< .001	-1.83	-0.43
Israel - Switzerland	-8.92	< .001	< .001	-1.70	-0.38
Israel - Taiwan	-4.15	< .001	< .001	-0.64	-0.15

Israel - Turkey	-9.26	< .001	< .001	-2.05	-0.45
Israel - United Kingdom	-10.99	< .001	< .001	-2.11	-0.45
Israel - United States of America	-17.22	< .001	< .001	-2.99	-0.62
Italy - Lithuania	1.05	.3	.33	0.14	0.03
Italy - Malaysia	-10.71	< .001	< .001	-1.72	-0.40
Italy - Mexico	-9.22	< .001	< .001	-1.32	-0.30
Italy - New Zealand	-11.62	< .001	< .001	-1.58	-0.35
Italy - North Macedonia	3.28	< .001	< .001	0.53	0.12
Italy - Peru	-6.96	< .001	< .001	-0.90	-0.21
Italy - Poland	-8.37	< .001	< .001	-0.91	-0.21
Italy - Portugal	-8.05	< .001	< .001	-1.08	-0.25
Italy - Slovakia	-7.97	< .001	< .001	-1.28	-0.31
Italy - South Africa	-11.12	< .001	< .001	-1.68	-0.37
Italy - South Korea	3.80	< .001	< .001	0.64	0.14
Italy - Spain	-8.22	< .001	< .001	-1.08	-0.26
Italy - Switzerland	-5.67	< .001	< .001	-0.95	-0.22
Italy - Taiwan	0.89	.37	.41	0.11	0.03
Italy - Turkey	-6.43	< .001	< .001	-1.29	-0.29
Italy - United Kingdom	-8.05	< .001	< .001	-1.36	-0.29
Italy - United States of America	-15.20	< .001	< .001	-2.23	-0.47
Lithuania - Malaysia	-11.63	< .001	< .001	-1.87	-0.45
Lithuania - Mexico	-10.25	< .001	< .001	-1.46	-0.34
Lithuania - New Zealand	-12.72	< .001	< .001	-1.72	-0.39
Lithuania - North Macedonia	2.40	.02	.02	0.39	0.09
Lithuania - Peru	-8.09	< .001	< .001	-1.05	-0.25
Lithuania - Poland	-9.74	< .001	< .001	-1.05	-0.25
Lithuania - Portugal	-9.15	< .001	< .001	-1.22	-0.30
Lithuania - Slovakia	-8.88	< .001	< .001	-1.42	-0.35
Lithuania - South Africa	-12.10	< .001	< .001	-1.83	-0.41
Lithuania - South Korea	2.95	< .001	< .001	0.49	0.11
Lithuania - Spain	-9.35	< .001	< .001	-1.22	-0.30
Lithuania - Switzerland	-6.54	< .001	< .001	-1.09	-0.25
Lithuania - Taiwan	-0.26	.79	.82	-0.03	-0.01
Lithuania - Turkey	-7.15	< .001	< .001	-1.43	-0.33
Lithuania - United Kingdom	-8.92	< .001	< .001	-1.50	-0.33
Lithuania - United States of America	-16.21	< .001	< .001	-2.37	-0.52
Malaysia - Mexico	2.44	.01	.02	0.40	0.09
Malaysia - New Zealand	0.92	.36	.4	0.15	0.03
Malaysia - North Macedonia	12.37	< .001	< .001	2.25	0.53
Malaysia - Peru	5.32	< .001	< .001	0.82	0.20
Malaysia - Poland	5.99	< .001	< .001	0.82	0.19
Malaysia - Portugal	4.12	< .001	< .001	0.65	0.16
Malaysia - Slovakia	2.44	.01	.02	0.44	0.11
Malaysia - South Africa	0.23	.82	.84	0.04	0.01
Malaysia - South Korea	12.61	< .001	< .001	2.36	0.51
Malaysia - Spain	4.18	< .001	< .001	0.65	0.16
Malaysia - Switzerland	4.17	< .001	< .001	0.78	0.18
Malaysia - Taiwan	12.26	< .001	< .001	1.83	0.45
Malaysia - Turkey	1.99	.05	.06	0.43	0.10
Malaysia - United Kingdom	1.96	.05	.06	0.37	0.08
Malaysia - United States of America	-3.02	< .001	< .001	-0.51	-0.11
Mexico - New Zealand	-1.83	.07	.09	-0.26	-0.06
Mexico - North Macedonia	11.10	< .001	< .001	1.85	0.42
Mexico - Peru	3.07	< .001	< .001	0.42	0.10
Mexico - Poland	3.60	< .001	< .001	0.41	0.09
Mexico - Portugal	1.75	.08	.1	0.24	0.06
Mexico - Slovakia	0.23	.82	.84	0.04	0.01
Mexico - South Africa	-2.33	.02	.03	-0.36	-0.08
Mexico - South Korea	11.36	< .001	< .001	1.96	0.41
Mexico - Spain	1.79	.07	.09	0.24	0.06
Mexico - Switzerland	2.19	.03	.04	0.37	0.08
Mexico - Taiwan	10.98	< .001	< .001	1.43	0.34
Mexico - Turkey	0.14	.89	.9	0.03	0.01
Mexico - United Kingdom	-0.21	.83	.85	-0.04	-0.01
Mexico - United States of America	-6.01	< .001	< .001	-0.91	-0.19
New Zealand - North Macedonia	13.14	< .001	< .001	2.11	0.47
New Zealand - Peru	5.28	< .001	< .001	0.67	0.15
New Zealand - Poland	6.35	< .001	< .001	0.67	0.15
New Zealand - Portugal	3.82	< .001	< .001	0.50	0.11
New Zealand - Slovakia	1.86	.06	.08	0.30	0.07

New Zealand - South Africa	-0.71	.48	.52	-0.11	-0.02
New Zealand - South Korea	13.33	< .001	< .001	2.21	0.46
New Zealand - Spain	3.90	< .001	< .001	0.50	0.11
New Zealand - Switzerland	3.83	< .001	< .001	0.63	0.14
New Zealand - Taiwan	13.82	< .001	< .001	1.69	0.39
New Zealand - Turkey	1.43	.15	.18	0.29	0.06
New Zealand - United Kingdom	1.33	.18	.22	0.22	0.05
New Zealand - United States of America	-4.52	< .001	< .001	-0.65	-0.13
North Macedonia - Peru	-9.23	< .001	< .001	-1.44	-0.34
North Macedonia - Poland	-10.41	< .001	< .001	-1.44	-0.34
North Macedonia - Portugal	-10.13	< .001	< .001	-1.61	-0.38
North Macedonia - Slovakia	-9.95	< .001	< .001	-1.81	-0.44
North Macedonia - South Africa	-12.74	< .001	< .001	-2.21	-0.49
North Macedonia - South Korea	0.56	.58	.62	0.10	0.02
North Macedonia - Spain	-10.28	< .001	< .001	-1.61	-0.39
North Macedonia - Switzerland	-7.88	< .001	< .001	-1.48	-0.34
North Macedonia - Taiwan	-2.78	< .001	.01	-0.42	-0.10
North Macedonia - Turkey	-8.35	< .001	< .001	-1.82	-0.41
North Macedonia - United Kingdom	-9.99	< .001	< .001	-1.89	-0.41
North Macedonia - United States of America	-16.25	< .001	< .001	-2.76	-0.59
Peru - Poland	-0.03	.98	.98	0.00	0.00
Peru - Portugal	-1.37	.17	.2	-0.17	-0.04
Peru - Slovakia	-2.45	.01	.02	-0.38	-0.09
Peru - South Africa	-5.41	< .001	< .001	-0.78	-0.18
Peru - South Korea	9.55	< .001	< .001	1.54	0.34
Peru - Spain	-1.41	.16	.19	-0.17	-0.04
Peru - Switzerland	-0.26	.8	.82	-0.04	-0.01
Peru - Taiwan	8.77	< .001	< .001	1.01	0.25
Peru - Turkey	-1.98	.05	.06	-0.39	-0.09
Peru - United Kingdom	-2.79	< .001	.01	-0.45	-0.10
Peru - United States of America	-9.53	< .001	< .001	-1.33	-0.29
Poland - Portugal	-1.64	.1	.12	-0.17	-0.04
Poland - Slovakia	-2.75	.01	.01	-0.38	-0.09
Poland - South Africa	-6.21	< .001	< .001	-0.78	-0.17
Poland - South Korea	10.67	< .001	< .001	1.54	0.33
Poland - Spain	-1.71	.09	.11	-0.17	-0.04
Poland - Switzerland	-0.27	.79	.82	-0.04	-0.01
Poland - Taiwan	11.20	< .001	< .001	1.02	0.25
Poland - Turkey	-2.12	.04	.05	-0.38	-0.09
Poland - United Kingdom	-3.09	< .001	< .001	-0.45	-0.10
Poland - United States of America	-11.08	< .001	< .001	-1.33	-0.28
Portugal - Slovakia	-1.31	.19	.22	-0.21	-0.05
Portugal - South Africa	-4.12	< .001	< .001	-0.61	-0.14
Portugal - South Korea	10.42	< .001	< .001	1.71	0.38
Portugal - Spain	0.00	1	1	0.00	0.00
Portugal - Switzerland	0.80	.42	.46	0.13	0.03
Portugal - Taiwan	9.90	< .001	< .001	1.19	0.30
Portugal - Turkey	-1.09	.28	.31	-0.22	-0.05
Portugal - United Kingdom	-1.70	.09	.11	-0.28	-0.06
Portugal - United States of America	-8.09	< .001	< .001	-1.16	-0.25
Slovakia - South Africa	-2.33	.02	.03	-0.40	-0.09
Slovakia - South Korea	10.25	< .001	< .001	1.92	0.43
Slovakia - Spain	1.33	.18	.22	0.21	0.05
Slovakia - Switzerland	1.80	.07	.09	0.34	0.08
Slovakia - Taiwan	9.30	< .001	< .001	1.39	0.35
Slovakia - Turkey	-0.04	.96	.97	-0.01	0.00
Slovakia - United Kingdom	-0.39	.69	.73	-0.07	-0.02
Slovakia - United States of America	-5.63	< .001	< .001	-0.95	-0.21
South Africa - South Korea	12.95	< .001	< .001	2.32	0.48
South Africa - Spain	4.19	< .001	< .001	0.61	0.14
South Africa - Switzerland	4.14	< .001	< .001	0.74	0.16
South Africa - Taiwan	12.88	< .001	< .001	1.79	0.41
South Africa - Turkey	1.86	.06	.08	0.39	0.08
South Africa - United Kingdom	1.82	.07	.09	0.33	0.07
South Africa - United States of America	-3.44	< .001	< .001	-0.55	-0.11
South Korea - Spain	-10.56	< .001	< .001	-1.71	-0.38
South Korea - Switzerland	-8.23	< .001	< .001	-1.58	-0.34
South Korea - Taiwan	-3.35	< .001	< .001	-0.53	-0.12
South Korea - Turkey	-8.67	< .001	< .001	-1.93	-0.40
South Korea - United Kingdom	-10.29	< .001	< .001	-1.99	-0.41

South Korea - United States of America	-16.36	< .001	< .001	-2.87	-0.57
Spain - Switzerland	0.81	.42	.46	0.13	0.03
Spain - Taiwan	10.16	< .001	< .001	1.19	0.30
Spain - Turkey	-1.10	.27	.31	-0.22	-0.05
Spain - United Kingdom	-1.72	.09	.1	-0.28	-0.06
Spain - United States of America	-8.24	< .001	< .001	-1.16	-0.25
Switzerland - Taiwan	6.77	< .001	< .001	1.06	0.25
Switzerland - Turkey	-1.56	.12	.14	-0.35	-0.08
Switzerland - United Kingdom	-2.13	.03	.04	-0.41	-0.09
Switzerland - United States of America	-7.38	< .001	< .001	-1.29	-0.27
Taiwan - Turkey	-7.30	< .001	< .001	-1.40	-0.33
Taiwan - United Kingdom	-9.30	< .001	< .001	-1.47	-0.33
Taiwan - United States of America	-17.42	< .001	< .001	-2.34	-0.52
Turkey - United Kingdom	-0.29	.77	.8	-0.06	-0.01
Turkey - United States of America	-4.54	< .001	< .001	-0.94	-0.20
United Kingdom - United States of America	-4.98	< .001	< .001	-0.88	-0.18

Note. t = t-test statistic; p = test significance; *p adj*. = test significance adjusted using the false discovery rate correction for multiplicity; Δ = difference in means; d = Cohen's d.

Table S3

Country-Based Pairwise Comparisons of the ASRS Screener Performed Using an Analysis of Variance, While Controlling for Gender and Age, Across Countries Included in Measurement Invariance Tests

Comparison	*t*	*p adj.*	*Δ*
Australia - Austria	8.51	< .001	2.01
Australia - Brazil	1.40	.183	0.27
Australia - Canada	-0.36	.743	-0.07
Australia - Chile	3.05	.003	0.66
Australia - China	8.17	< .001	1.60
Australia - Colombia	5.40	< .001	1.09
Australia - Croatia	7.59	< .001	1.50
Australia - Czech Republic	5.68	< .001	1.16
Australia - France	2.38	.022	0.49
Australia - Germany	9.24	< .001	1.76
Australia - Hungary	8.86	< .001	1.59
Australia - Ireland	1.07	.312	0.22
Australia - Israel	9.72	< .001	2.07
Australia - Italy	11.88	< .001	2.36
Australia - Lithuania	9.07	< .001	1.81
Australia - Malaysia	3.63	< .001	0.78
Australia - Mexico	3.31	.001	0.66
Australia - New Zealand	-0.46	.669	-0.09
Australia - North Macedonia	12.26	< .001	2.65
Australia - Peru	5.09	< .001	0.99
Australia - Poland	8.41	< .001	1.53
Australia - Portugal	4.88	< .001	0.97
Australia - Slovakia	4.60	< .001	1.01
Australia - South Africa	2.14	.039	0.43
Australia - South Korea	15.26	< .001	3.20
Australia - Spain	8.14	< .001	1.61
Australia - Switzerland	5.84	< .001	1.27
Australia - Taiwan	10.88	< .001	2.10
Australia - Turkey	3.80	< .001	0.90
Australia - United Kingdom	1.83	.079	0.39
Australia - United States of America	-0.67	.532	-0.13
Austria - Brazil	-9.95	< .001	-1.75
Austria - Canada	-11.49	< .001	-2.08
Austria - Chile	-6.67	< .001	-1.35
Austria - China	-2.30	.027	-0.42
Austria - Colombia	-4.87	< .001	-0.92
Austria - Croatia	-2.80	.007	-0.51
Austria - Czech Republic	-4.41	< .001	-0.85
Austria - France	-7.98	< .001	-1.53
Austria - Germany	-1.44	.173	-0.25
Austria - Hungary	-2.55	.014	-0.42
Austria - Ireland	-9.30	< .001	-1.79
Austria - Israel	0.29	.783	0.06
Austria - Italy	1.89	.07	0.35
Austria - Lithuania	-1.05	.32	-0.20
Austria - Malaysia	-6.04	< .001	-1.23
Austria - Mexico	-7.26	< .001	-1.35
Austria - New Zealand	-11.73	< .001	-2.10
Austria - North Macedonia	3.13	.002	0.63
Austria - Peru	-5.64	< .001	-1.02
Austria - Poland	-2.91	.005	-0.48
Austria - Portugal	-5.66	< .001	-1.04
Austria - Slovakia	-4.80	< .001	-1.00
Austria - South Africa	-8.35	< .001	-1.58
Austria - South Korea	6.08	< .001	1.19
Austria - Spain	-2.17	.037	-0.40
Austria - Switzerland	-3.67	< .001	-0.75
Austria - Taiwan	0.50	.645	0.09

Austria - Turkey	-4.92	< .001	-1.11
Austria - United Kingdom	-8.23	< .001	-1.63
Austria - United States of America	-11.72	< .001	-2.14
Brazil - Canada	-2.94	.004	-0.34
Brazil - Chile	2.67	.01	0.39
Brazil - China	11.61	< .001	1.33
Brazil - Colombia	6.55	< .001	0.83
Brazil - Croatia	10.41	< .001	1.23
Brazil - Czech Republic	6.93	< .001	0.90
Brazil - France	1.70	.103	0.22
Brazil - Germany	14.17	< .001	1.49
Brazil - Hungary	15.68	< .001	1.33
Brazil - Ireland	-0.34	.755	-0.04
Brazil - Israel	12.67	< .001	1.80
Brazil - Italy	17.42	< .001	2.09
Brazil - Lithuania	12.63	< .001	1.55
Brazil - Malaysia	3.52	< .001	0.52
Brazil - Mexico	3.24	.002	0.40
Brazil - New Zealand	-3.20	.002	-0.35
Brazil - North Macedonia	16.23	< .001	2.38
Brazil - Peru	6.38	< .001	0.73
Brazil - Poland	14.03	< .001	1.26
Brazil - Portugal	5.86	< .001	0.70
Brazil - Slovakia	4.87	< .001	0.75
Brazil - South Africa	1.33	.206	0.17
Brazil - South Korea	21.31	< .001	2.94
Brazil - Spain	11.29	< .001	1.35
Brazil - Switzerland	6.76	< .001	1.00
Brazil - Taiwan	16.60	< .001	1.84
Brazil - Turkey	3.60	< .001	0.64
Brazil - United Kingdom	0.86	.419	0.12
Brazil - United States of America	-3.39	.001	-0.40
Canada - Chile	4.74	< .001	0.73
Canada - China	13.59	< .001	1.67
Canada - Colombia	8.71	< .001	1.16
Canada - Croatia	12.44	< .001	1.57
Canada - Czech Republic	8.89	< .001	1.23
Canada - France	4.05	< .001	0.56
Canada - Germany	15.79	< .001	1.83
Canada - Hungary	17.17	< .001	1.66
Canada - Ireland	2.09	.045	0.29
Canada - Israel	14.28	< .001	2.14
Canada - Italy	19.04	< .001	2.43
Canada - Lithuania	14.42	< .001	1.89
Canada - Malaysia	5.56	< .001	0.85
Canada - Mexico	5.64	< .001	0.73
Canada - New Zealand	-0.16	.884	-0.02
Canada - North Macedonia	17.72	< .001	2.72
Canada - Peru	8.67	< .001	1.06
Canada - Poland	16.08	< .001	1.60
Canada - Portugal	8.14	< .001	1.04
Canada - Slovakia	6.79	< .001	1.08
Canada - South Africa	3.75	< .001	0.50
Canada - South Korea	22.67	< .001	3.27
Canada - Spain	13.29	< .001	1.68
Canada - Switzerland	8.66	< .001	1.34
Canada - Taiwan	18.17	< .001	2.17
Canada - Turkey	5.34	< .001	0.97
Canada - United Kingdom	3.12	.003	0.46
Canada - United States of America	-0.49	.649	-0.06
Chile - China	6.15	< .001	0.94
Chile - Colombia	2.70	.009	0.44
Chile - Croatia	5.40	< .001	0.84
Chile - Czech Republic	3.01	.003	0.50
Chile - France	-1.04	.325	-0.17
Chile - Germany	7.40	< .001	1.10
Chile - Hungary	7.01	< .001	0.93
Chile - Ireland	-2.62	.011	-0.44
Chile - Israel	8.02	< .001	1.41
Chile - Italy	10.85	< .001	1.70

Chile - Lithuania	7.24	< .001	1.16
Chile - Malaysia	0.71	.511	0.13
Chile - Mexico	0.02	.982	0.00
Chile - New Zealand	-4.94	< .001	-0.75
Chile - North Macedonia	11.16	< .001	1.99
Chile - Peru	2.19	.036	0.33
Chile - Poland	6.45	< .001	0.87
Chile - Portugal	1.97	.059	0.31
Chile - Slovakia	1.94	.063	0.36
Chile - South Africa	-1.38	.19	-0.22
Chile - South Korea	14.94	< .001	2.54
Chile - Spain	6.14	< .001	0.95
Chile - Switzerland	3.39	< .001	0.61
Chile - Taiwan	9.62	< .001	1.44
Chile - Turkey	1.20	.255	0.24
Chile - United Kingdom	-1.58	.132	-0.27
Chile - United States of America	-5.09	< .001	-0.79
China - Colombia	-3.80	< .001	-0.50
China - Croatia	-0.78	.469	-0.10
China - Czech Republic	-3.10	.003	-0.43
China - France	-8.12	< .001	-1.11
China - Germany	1.40	.185	0.16
China - Hungary	-0.03	.98	0.00
China - Ireland	-9.89	< .001	-1.37
China - Israel	3.17	.002	0.47
China - Italy	6.04	< .001	0.76
China - Lithuania	1.68	.107	0.22
China - Malaysia	-5.32	< .001	-0.81
China - Mexico	-7.22	< .001	-0.93
China - New Zealand	-14.06	< .001	-1.68
China - North Macedonia	6.89	< .001	1.05
China - Peru	-4.96	< .001	-0.60
China - Poland	-0.69	.524	-0.07
China - Portugal	-4.94	< .001	-0.63
China - Slovakia	-3.67	< .001	-0.58
China - South Africa	-8.70	< .001	-1.16
China - South Korea	11.23	< .001	1.61
China - Spain	0.14	.895	0.02
China - Switzerland	-2.15	.038	-0.33
China - Taiwan	4.27	< .001	0.51
China - Turkey	-3.82	< .001	-0.69
China - United Kingdom	-8.29	< .001	-1.21
China - United States of America	-13.84	< .001	-1.73
Colombia - Croatia	2.99	.004	0.40
Colombia - Czech Republic	0.46	.669	0.07
Colombia - France	-4.15	< .001	-0.61
Colombia - Germany	5.19	< .001	0.66
Colombia - Hungary	4.55	< .001	0.50
Colombia - Ireland	-5.87	< .001	-0.87
Colombia - Israel	6.15	< .001	0.98
Colombia - Italy	9.26	< .001	1.26
Colombia - Lithuania	5.13	< .001	0.72
Colombia - Malaysia	-1.92	.066	-0.31
Colombia - Mexico	-3.10	.003	-0.43
Colombia - New Zealand	-9.02	< .001	-1.18
Colombia - North Macedonia	9.64	< .001	1.55
Colombia - Peru	-0.77	.473	-0.10
Colombia - Poland	3.92	< .001	0.43
Colombia - Portugal	-0.92	.39	-0.13
Colombia - Slovakia	-0.48	.659	-0.08
Colombia - South Africa	-4.60	< .001	-0.66
Colombia - South Korea	13.86	< .001	2.11
Colombia - Spain	3.83	< .001	0.52
Colombia - Switzerland	1.06	.319	0.17
Colombia - Taiwan	7.78	< .001	1.01
Colombia - Turkey	-1.01	.338	-0.19
Colombia - United Kingdom	-4.57	< .001	-0.71
Colombia - United States of America	-9.04	< .001	-1.23
Croatia - Czech Republic	-2.36	.023	-0.34
Croatia - France	-7.24	< .001	-1.01

Croatia - Germany	2.17	.037	0.26
Croatia - Hungary	0.94	.378	0.09
Croatia - Ireland	-9.00	< .001	-1.28
Croatia - Israel	3.75	< .001	0.57
Croatia - Italy	6.65	< .001	0.86
Croatia - Lithuania	2.38	.022	0.32
Croatia - Malaysia	-4.59	< .001	-0.71
Croatia - Mexico	-6.32	< .001	-0.84
Croatia - New Zealand	-12.87	< .001	-1.59
Croatia - North Macedonia	7.39	< .001	1.15
Croatia - Peru	-4.04	< .001	-0.51
Croatia - Poland	0.29	.783	0.03
Croatia - Portugal	-4.09	< .001	-0.53
Croatia - Slovakia	-3.00	.004	-0.48
Croatia - South Africa	-7.78	< .001	-1.06
Croatia - South Korea	11.67	< .001	1.70
Croatia - Spain	0.89	.403	0.11
Croatia - Switzerland	-1.49	.156	-0.23
Croatia - Taiwan	4.94	< .001	0.60
Croatia - Turkey	-3.24	.002	-0.60
Croatia - United Kingdom	-7.48	< .001	-1.11
Croatia - United States of America	-12.70	< .001	-1.63
Czech Republic - France	-4.46	< .001	-0.68
Czech Republic - Germany	4.55	< .001	0.60
Czech Republic - Hungary	3.72	< .001	0.43
Czech Republic - Ireland	-6.13	< .001	-0.94
Czech Republic - Israel	5.59	< .001	0.91
Czech Republic - Italy	8.32	< .001	1.20
Czech Republic - Lithuania	4.48	< .001	0.65
Czech Republic - Malaysia	-2.26	.03	-0.38
Czech Republic - Mexico	-3.45	< .001	-0.50
Czech Republic - New Zealand	-9.23	< .001	-1.25
Czech Republic - North Macedonia	8.89	< .001	1.48
Czech Republic - Peru	-1.23	.244	-0.17
Czech Republic - Poland	3.06	.003	0.37
Czech Republic - Portugal	-1.36	.197	-0.19
Czech Republic - Slovakia	-0.86	.42	-0.15
Czech Republic - South Africa	-4.87	< .001	-0.73
Czech Republic - South Korea	12.81	< .001	2.04
Czech Republic - Spain	3.13	.002	0.45
Czech Republic - Switzerland	0.61	.57	0.10
Czech Republic - Taiwan	6.89	< .001	0.94
Czech Republic - Turkey	-1.34	.201	-0.26
Czech Republic - United Kingdom	-4.86	< .001	-0.78
Czech Republic - United States of America	-9.14	< .001	-1.30
France - Germany	9.70	< .001	1.27
France - Hungary	9.68	< .001	1.11
France - Ireland	-1.74	.095	-0.27
France - Israel	9.79	< .001	1.58
France - Italy	13.27	< .001	1.87
France - Lithuania	9.22	< .001	1.33
France - Malaysia	1.81	.083	0.30
France - Mexico	1.22	.245	0.18
France - New Zealand	-4.27	< .001	-0.58
France - North Macedonia	13.11	< .001	2.16
France - Peru	3.70	< .001	0.51
France - Poland	8.96	< .001	1.04
France - Portugal	3.41	< .001	0.48
France - Slovakia	3.09	.003	0.53
France - South Africa	-0.35	.744	-0.05
France - South Korea	17.37	< .001	2.72
France - Spain	8.04	< .001	1.13
France - Switzerland	4.70	< .001	0.78
France - Taiwan	12.06	< .001	1.61
France - Turkey	2.17	.037	0.42
France - United Kingdom	-0.64	.555	-0.10
France - United States of America	-4.43	< .001	-0.62
Germany - Hungary	-1.89	.07	-0.16
Germany - Ireland	-11.54	< .001	-1.54
Germany - Israel	2.18	.037	0.31

Germany - Italy	4.96	< .001	0.60
Germany - Lithuania	0.46	.669	0.06
Germany - Malaysia	-6.54	< .001	-0.97
Germany - Mexico	-8.89	< .001	-1.10
Germany - New Zealand	-16.45	< .001	-1.85
Germany - North Macedonia	6.00	< .001	0.89
Germany - Peru	-6.62	< .001	-0.77
Germany - Poland	-2.52	.015	-0.23
Germany - Portugal	-6.53	< .001	-0.79
Germany - Slovakia	-4.81	< .001	-0.74
Germany - South Africa	-10.32	< .001	-1.32
Germany - South Korea	10.39	< .001	1.44
Germany - Spain	-1.20	.255	-0.15
Germany - Switzerland	-3.31	.001	-0.49
Germany - Taiwan	3.05	.003	0.34
Germany - Turkey	-4.81	< .001	-0.86
Germany - United Kingdom	-9.78	< .001	-1.37
Germany - United States of America	-15.89	< .001	-1.89
Hungary - Ireland	-11.73	< .001	-1.37
Hungary - Israel	3.70	< .001	0.48
Hungary - Italy	7.46	< .001	0.77
Hungary - Lithuania	2.09	.045	0.22
Hungary - Malaysia	-6.05	< .001	-0.81
Hungary - Mexico	-8.82	< .001	-0.93
Hungary - New Zealand	-18.11	< .001	-1.68
Hungary - North Macedonia	7.92	< .001	1.05
Hungary - Peru	-6.27	< .001	-0.60
Hungary - Poland	-1.00	.346	-0.06
Hungary - Portugal	-6.07	< .001	-0.62
Hungary - Slovakia	-4.13	< .001	-0.58
Hungary - South Africa	-10.46	< .001	-1.16
Hungary - South Korea	13.12	< .001	1.61
Hungary - Spain	0.20	.855	0.02
Hungary - Switzerland	-2.44	.019	-0.33
Hungary - Taiwan	5.54	< .001	0.51
Hungary - Turkey	-4.17	< .001	-0.69
Hungary - United Kingdom	-9.65	< .001	-1.21
Hungary - United States of America	-17.23	< .001	-1.73
Ireland - Israel	11.31	< .001	1.85
Ireland - Italy	14.93	< .001	2.14
Ireland - Lithuania	10.90	< .001	1.59
Ireland - Malaysia	3.37	.001	0.56
Ireland - Mexico	3.03	.003	0.44
Ireland - New Zealand	-2.27	.029	-0.31
Ireland - North Macedonia	14.56	< .001	2.42
Ireland - Peru	5.55	< .001	0.77
Ireland - Poland	11.00	< .001	1.31
Ireland - Portugal	5.21	< .001	0.75
Ireland - Slovakia	4.60	< .001	0.79
Ireland - South Africa	1.42	.176	0.21
Ireland - South Korea	18.83	< .001	2.98
Ireland - Spain	9.77	< .001	1.39
Ireland - Switzerland	6.24	< .001	1.04
Ireland - Taiwan	13.80	< .001	1.88
Ireland - Turkey	3.52	< .001	0.68
Ireland - United Kingdom	1.03	.334	0.16
Ireland - United States of America	-2.49	.016	-0.35
Israel - Italy	1.88	.071	0.29
Israel - Lithuania	-1.64	.118	-0.26
Israel - Malaysia	-7.30	< .001	-1.29
Israel - Mexico	-9.06	< .001	-1.41
Israel - New Zealand	-14.66	< .001	-2.16
Israel - North Macedonia	3.28	.001	0.57
Israel - Peru	-7.21	< .001	-1.08
Israel - Poland	-4.13	< .001	-0.54
Israel - Portugal	-7.18	< .001	-1.10
Israel - Slovakia	-5.83	< .001	-1.06
Israel - South Africa	-10.26	< .001	-1.64
Israel - South Korea	6.74	< .001	1.13
Israel - Spain	-2.99	.004	-0.46

Israel - Switzerland	-4.56	< .001	-0.80
Israel - Taiwan	0.21	.845	0.03
Israel - Turkey	-5.80	< .001	-1.17
Israel - United Kingdom	-9.94	< .001	-1.68
Israel - United States of America	-14.48	< .001	-2.20
Italy - Lithuania	-4.04	< .001	-0.54
Italy - Malaysia	-10.05	< .001	-1.57
Italy - Mexico	-12.69	< .001	-1.70
Italy - New Zealand	-19.59	< .001	-2.45
Italy - North Macedonia	1.83	.079	0.29
Italy - Peru	-10.78	< .001	-1.37
Italy - Poland	-8.05	< .001	-0.83
Italy - Portugal	-10.61	< .001	-1.39
Italy - Slovakia	-8.28	< .001	-1.34
Italy - South Africa	-13.93	< .001	-1.92
Italy - South Korea	5.73	< .001	0.84
Italy - Spain	-5.75	< .001	-0.75
Italy - Switzerland	-6.96	< .001	-1.09
Italy - Taiwan	-2.09	.045	-0.26
Italy - Turkey	-7.88	< .001	-1.46
Italy - United Kingdom	-13.16	< .001	-1.97
Italy - United States of America	-19.18	< .001	-2.49
Lithuania - Malaysia	-6.45	< .001	-1.03
Lithuania - Mexico	-8.41	< .001	-1.15
Lithuania - New Zealand	-14.88	< .001	-1.90
Lithuania - North Macedonia	5.21	< .001	0.83
Lithuania - Peru	-6.32	< .001	-0.82
Lithuania - Poland	-2.65	.011	-0.29
Lithuania - Portugal	-6.29	< .001	-0.85
Lithuania - Slovakia	-4.84	< .001	-0.80
Lithuania - South Africa	-9.76	< .001	-1.38
Lithuania - South Korea	9.21	< .001	1.39
Lithuania - Spain	-1.51	.151	-0.20
Lithuania - Switzerland	-3.43	< .001	-0.55
Lithuania - Taiwan	2.25	.031	0.29
Lithuania - Turkey	-4.87	< .001	-0.91
Lithuania - United Kingdom	-9.36	< .001	-1.43
Lithuania - United States of America	-14.62	< .001	-1.95
Malaysia - Mexico	-0.77	.472	-0.12
Malaysia - New Zealand	-5.76	< .001	-0.87
Malaysia - North Macedonia	10.45	< .001	1.86
Malaysia - Peru	1.36	.196	0.21
Malaysia - Poland	5.53	< .001	0.74
Malaysia - Portugal	1.17	.267	0.18
Malaysia - Slovakia	1.25	.236	0.23
Malaysia - South Africa	-2.15	.038	-0.35
Malaysia - South Korea	14.20	< .001	2.42
Malaysia - Spain	5.33	< .001	0.83
Malaysia - Switzerland	2.69	.009	0.48
Malaysia - Taiwan	8.77	< .001	1.32
Malaysia - Turkey	0.58	.592	0.12
Malaysia - United Kingdom	-2.31	.027	-0.40
Malaysia - United States of America	-5.90	< .001	-0.92
Mexico - New Zealand	-5.91	< .001	-0.75
Mexico - North Macedonia	12.51	< .001	1.98
Mexico - Peru	2.55	.014	0.33
Mexico - Poland	8.10	< .001	0.87
Mexico - Portugal	2.29	.028	0.31
Mexico - Slovakia	2.14	.04	0.35
Mexico - South Africa	-1.62	.122	-0.23
Mexico - South Korea	16.95	< .001	2.54
Mexico - Spain	7.16	< .001	0.95
Mexico - Switzerland	3.79	< .001	0.60
Mexico - Taiwan	11.39	< .001	1.44
Mexico - Turkey	1.29	.222	0.24
Mexico - United Kingdom	-1.82	.081	-0.28
Mexico - United States of America	-6.00	< .001	-0.79
New Zealand - North Macedonia	18.11	< .001	2.73
New Zealand - Peru	9.04	< .001	1.08
New Zealand - Poland	16.83	< .001	1.62

New Zealand - Portugal	8.46	< .001	1.06
New Zealand - Slovakia	7.00	< .001	1.10
New Zealand - South Africa	3.97	< .001	0.52
New Zealand - South Korea	23.17	< .001	3.29
New Zealand - Spain	13.71	< .001	1.70
New Zealand - Switzerland	8.91	< .001	1.35
New Zealand - Taiwan	18.80	< .001	2.19
New Zealand - Turkey	5.50	< .001	0.99
New Zealand - United Kingdom	3.30	.001	0.47
New Zealand - United States of America	-0.35	.744	-0.04
North Macedonia - Peru	-10.85	< .001	-1.65
North Macedonia - Poland	-8.32	< .001	-1.12
North Macedonia - Portugal	-10.71	< .001	-1.68
North Macedonia - Slovakia	-8.90	< .001	-1.63
North Macedonia - South Africa	-13.64	< .001	-2.21
North Macedonia - South Korea	3.28	.001	0.56
North Macedonia - Spain	-6.65	< .001	-1.03
North Macedonia - Switzerland	-7.72	< .001	-1.38
North Macedonia - Taiwan	-3.63	< .001	-0.54
North Macedonia - Turkey	-8.57	< .001	-1.74
North Macedonia - United Kingdom	-13.11	< .001	-2.26
North Macedonia - United States of America	-17.91	< .001	-2.78
Peru - Poland	5.45	< .001	0.54
Peru - Portugal	-0.19	.859	-0.02
Peru - Slovakia	0.14	.895	0.02
Peru - South Africa	-4.17	< .001	-0.56
Peru - South Korea	15.41	< .001	2.21
Peru - Spain	4.94	< .001	0.62
Peru - Switzerland	1.78	.088	0.27
Peru - Taiwan	9.36	< .001	1.11
Peru - Turkey	-0.50	.649	-0.09
Peru - United Kingdom	-4.16	< .001	-0.61
Peru - United States of America	-8.99	< .001	-1.12
Poland - Portugal	-5.41	< .001	-0.56
Poland - Slovakia	-3.63	< .001	-0.51
Poland - South Africa	-9.71	< .001	-1.09
Poland - South Korea	13.56	< .001	1.67
Poland - Spain	0.83	.438	0.08
Poland - Switzerland	-1.94	.062	-0.26
Poland - Taiwan	6.07	< .001	0.57
Poland - Turkey	-3.75	< .001	-0.63
Poland - United Kingdom	-9.01	< .001	-1.14
Poland - United States of America	-16.22	< .001	-1.66
Portugal - Slovakia	0.28	.792	0.05
Portugal - South Africa	-3.86	< .001	-0.53
Portugal - South Korea	15.13	< .001	2.23
Portugal - Spain	4.95	< .001	0.64
Portugal - Switzerland	1.89	.07	0.30
Portugal - Taiwan	9.14	< .001	1.13
Portugal - Turkey	-0.36	.744	-0.07
Portugal - United Kingdom	-3.89	< .001	-0.58
Portugal - United States of America	-8.46	< .001	-1.10
Slovakia - South Africa	-3.45	< .001	-0.58
Slovakia - South Korea	12.45	< .001	2.19
Slovakia - Spain	3.71	< .001	0.60
Slovakia - Switzerland	1.36	.195	0.25
Slovakia - Taiwan	6.96	< .001	1.09
Slovakia - Turkey	-0.54	.622	-0.11
Slovakia - United Kingdom	-3.53	< .001	-0.63
Slovakia - United States of America	-7.10	< .001	-1.15
South Africa - South Korea	18.02	< .001	2.77
South Africa - Spain	8.60	< .001	1.18
South Africa - Switzerland	5.10	< .001	0.83
South Africa - Taiwan	12.75	< .001	1.67
South Africa - Turkey	2.47	.017	0.47
South Africa - United Kingdom	-0.31	.772	-0.05
South Africa - United States of America	-4.15	< .001	-0.57
South Korea - Spain	-10.89	< .001	-1.59
South Korea - Switzerland	-11.33	< .001	-1.94
South Korea - Taiwan	-7.84	< .001	-1.10

South Korea - Turkey	-11.70	< .001	-2.30
South Korea - United Kingdom	-17.12	< .001	-2.82
South Korea - United States of America	-22.81	< .001	-3.33
Spain - Switzerland	-2.22	.033	-0.35
Spain - Taiwan	4.00	< .001	0.49
Spain - Turkey	-3.86	< .001	-0.71
Spain - United Kingdom	-8.23	< .001	-1.23
Spain - United States of America	-13.56	< .001	-1.75
Switzerland - Taiwan	5.54	< .001	0.84
Switzerland - Turkey	-1.78	.088	-0.36
Switzerland - United Kingdom	-5.08	< .001	-0.88
Switzerland - United States of America	-8.95	< .001	-1.40
Taiwan - Turkey	-6.68	< .001	-1.20
Taiwan - United Kingdom	-11.97	< .001	-1.72
Taiwan - United States of America	-18.32	< .001	-2.23
Turkey - United Kingdom	-2.60	.012	-0.52
Turkey - United States of America	-5.63	< .001	-1.03
United Kingdom - United States of America	-3.49	< .001	-0.52

Note. t = t-test statistic; *p adj*. = test significance adjusted using the false discovery rate correction for multiplicity; Δ = difference in means.

Table S4

Language-Based Confirmatory Factor Analyses and Tests of Invariance of the ASRS Screener

Model	DWLS χ^2	df	RMSEA	CFI	TLI	c	Comp.	Δdf	ΔRMSEA	ΔCFI	ΔTLI
Croatian	121.549	9	.076	.961	.934	-	-	-	-	-	-
Czech	118.091	9	.091	.944	.907	-	-	-	-	-	-
English	1009.311	9	.098	.959	.931	-	-	-	-	-	-
French	277.986	9	.093	.948	.913	-	-	-	-	-	-
German	285.542	9	.098	.920	.867	-	-	-	-	-	-
Hebrew	120.393	9	.104	.936	.894	-	-	-	-	-	-
Hungarian	1231.064	9	.120	.881	.802	-	-	-	-	-	-
Italian	179.214	9	.097	.941	.902	-	-	-	-	-	-
Korean	44.220	9	.055	.986	.977	-	-	-	-	-	-
Lithuanian	133.799	9	.087	.954	.923	-	-	-	-	-	-
Macedonian	79.073	9	.084	.953	.922	-	-	-	-	-	-
Mandarin - Simplified	130.233	9	.075	.944	.907	-	-	-	-	-	-
Mandarin - Traditional	213.074	9	.093	.953	.922	-	-	-	-	-	-
Polish	977.373	9	.112	.923	.872	-	-	-	-	-	-
Portuguese - Brazil	406.855	9	.116	.935	.892	-	-	-	-	-	-
Portuguese - Portugal	128.410	9	.082	.953	.921	-	-	-	-	-	-
Slovak	120.152	9	.082	.941	.901	-	-	-	-	-	-
Spanish - Latin America	345.430	9	.073	.967	.946	-	-	-	-	-	-
Spanish - Spain	111.795	9	.075	.946	.910	-	-	-	-	-	-
Turkish	69.002	9	.098	.951	.918	-	-	-	-	-	-
Invariance											
m1 configural	6102.566	180	.098	.942	.904	-	-	-	-	-	-
m2 metric	8801.511	275	.095	.917	.909	-	m2-m1	95	-.003	-.025	.006
m2a partial metric	7225.128	256	.089	.932	.920	ASRS=~ASRS6	m2a-m1	76	-.009	-.010	.017
m2b partial metric	6733.104	237	.089	.937	.920	ASRS=~ASRS5	m2b-m1	57	-.009	-.006	.016
m3 scalar	19410.630	370	.122	.814	.850	-	m3-m2	95	.027	-.102	-.060
m3a partial scalar	15423.719	351	.111	.853	.874	ASRS5~1	m3a-m2	76	.017	-.064	-.035
m3b partial scalar	13638.608	332	.108	.870	.883	ASRS4~1	m3b-m2	57	.013	-.047	-.027
m3c partial scalar	11242.440	313	.101	.894	.898	ASRS3~1	m3c-m2	38	.006	-.023	-.011
m3d partial scalar	10475.115	294	.100	.901	.899	ASRS2~1	m3d-m2	19	.005	-.016	-.011
m3e partial scalar	8801.511	275	.095	.917	.909	ASRS6~1	m3e-m2	0	.000	.000	.000
m4 residual	22208.873	484	.114	.788	.869	-	m4-m3	114	-.008	-.026	.019
m4a partial residual	21486.496	465	.114	.795	.868	ASRS5~~ASRS5	m4a-m3	95	-.008	-.019	.018
m4b partial residual	20938.515	446	.115	.800	.866	ASRS1~~ASRS1	m4b-m3	76	-.007	-.014	.016
m4c partial residual	20513.974	427	.117	.804	.863	ASRS4~~ASRS4	m4c-m3	57	-.005	-.010	.013
m4d partial residual	**20046.911**	**408**	**.118**	**.809**	**.859**	**ASRS6~~ASRS6**	**m4d-m3**	**38**	**-.004**	**-.006**	**.010**
m5 variance-covariance	26459.252	503	.122	.747	.849	-	m5-m4	19	.008	-.041	-.020
m6 means	34133.619	522	.136	.673	.812	-	m6-m5	19	.014	-.075	-.037

Note. DWLS = diagonally weighted least square estimator; χ^2 = Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root-mean-square error of approximation; Comp. = Comparison; ΔCFI = change in CFI value compared to the preceding model; ΔTLI = change in the TLI value compared to the preceding model; ΔRMSEA = change in the RMSEA value compared to the preceding mode; c = additional constraint relaxed for current model. =~ = loadings; ~1 = intercepts; ~~ = covariances.

Highlighted in bold is the level of invariance achieved.

Table S5

Country-Based Confirmatory Factor Analyses and Tests of Invariance of the ASRS Screener

Model	DWLS χ^2	df	RMSEA	CFI	TLI	c	Comp.	Δdf	ΔRMSEA	ΔCFI	ΔTLI
Australia	57.543	9	.098	.971	.951	-	-	-	-	-	-
Austria	53.903	9	.086	.933	.888	-	-	-	-	-	-
Brazil	398.802	9	.116	.935	.891	-	-	-	-	-	-
Canada	195.400	9	.095	.960	.933	-	-	-	-	-	-
Chile	58.000	9	.071	.966	.943	-	-	-	-	-	-
China	128.622	9	.075	.944	.907	-	-	-	-	-	-
Colombia	56.388	9	.056	.980	.967	-	-	-	-	-	-
Croatia	111.944	9	.074	.964	.939	-	-	-	-	-	-
Czech Republic	120.328	9	.090	.945	.909	-	-	-	-	-	-
France	102.952	9	.083	.956	.927	-	-	-	-	-	-
Germany	266.010	9	.097	.924	.873	-	-	-	-	-	-
Hungary	1225.462	9	.117	.889	.814	-	-	-	-	-	-
Ireland	176.061	9	.113	.939	.899	-	-	-	-	-	-
Israel	119.281	9	.103	.939	.899	-	-	-	-	-	-
Italy	178.255	9	.097	.940	.899	-	-	-	-	-	-
Lithuania	126.423	9	.085	.956	.927	-	-	-	-	-	-
Malaysia	78.151	9	.084	.948	.913	-	-	-	-	-	-
Mexico	111.576	9	.078	.968	.946	-	-	-	-	-	-
New Zealand	221.459	9	.097	.961	.935	-	-	-	-	-	-
North Macedonia	73.196	9	.081	.956	.927	-	-	-	-	-	-
Peru	135.111	9	.078	.964	.939	-	-	-	-	-	-
Poland	933.313	9	.112	.925	.875	-	-	-	-	-	-
Portugal	126.304	9	.081	.955	.926	-	-	-	-	-	-
Slovakia	64.581	9	.080	.936	.893	-	-	-	-	-	-
South Africa	127.190	9	.089	.959	.932	-	-	-	-	-	-
South Korea	41.681	9	.053	.988	.979	-	-	-	-	-	-
Spain	122.526	9	.078	.942	.904	-	-	-	-	-	-
Switzerland	115.212	9	.105	.927	.878	-	-	-	-	-	-
Taiwan	209.689	9	.093	.954	.923	-	-	-	-	-	-
Turkey	62.224	9	.094	.954	.923	-	-	-	-	-	-
United Kingdom	138.781	9	.108	.951	.919	-	-	-	-	-	-
United States of America	186.116	9	.097	.963	.939	-	-	-	-	-	-
Invariance											
m1 configural	6122.485	288	.097	.943	.906	-	-	-	-	-	-
m2 metric	8766.086	443	.093	.919	.912	-	m2-m1	155	-.004	-.024	.007
m2a partial metric	7223.675	412	.087	.934	.923	ASRS=~ASRS6	m2a-m1	124	-.009	-.009	.017
m3 scalar	19510.204	598	.121	.816	.853	-	m3-m2	155	.028	-.103	-.060
m3a partial scalar	15349.787	567	.110	.856	.878	ASRS5~1	m3a-m2	124	.017	-.063	-.034
m3b partial scalar	13597.608	536	.106	.873	.886	ASRS4~1	m3b-m2	93	.013	-.046	-.026
m3c partial scalar	11273.432	505	.099	.895	.901	ASRS3~1	m3c-m2	62	.006	-.024	-.012
m3d partial scalar	10476.466	474	.099	.903	.902	ASRS2~1	m3d-m2	31	.006	-.016	-.011
m3e partial scalar	8766.086	443	.093	.919	.912	ASRS6~1	m3e-m2	0	.000	.000	.000
m4 residual	22297.440	784	.113	.791	.872	-	m4-m3	186	-.008	-.025	.020
m4a partial residual	21764.330	753	.114	.796	.870	ASRS1~~ASRS1	m4a-m3	155	-.007	-.020	.017
m4b partial residual	21119.492	722	.114	.802	.868	ASRS5~~ASRS5	m4b-m3	124	-.007	-.014	.016
m4c partial residual	20679.228	691	.116	.806	.865	ASRS4~~ASRS4	m4c-m3	93	-.005	-.010	.013
m4d partial residual	**20181.007**	**660**	**.117**	**.810**	**.862**	**ASRS6~~ASRS6**	**m4d-m3**	**62**	**-.004**	**-.006**	**.010**
m5 variance-covariance	26767.680	815	.121	.748	.851	-	m5-m4	31	.009	-.043	-.021
m6 means	33897.745	846	.135	.679	.818	-	m6-m5	31	.013	-.069	-.034

Note. DWLS = diagonally weighted least square estimator; χ^2 = Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root-mean-square error of approximation; Comp. = Comparison; ΔCFI = change in CFI value compared to the preceding model; ΔTLI = change in the TLI value compared to the preceding model; ΔRMSEA = change in the RMSEA value compared to the preceding mode; c = model constraint relaxed for given model. =~ = loadings; ~1 = intercepts; ~~ = covariances. Highlighted in bold is the level of invariance achieved.

Table S6

Gender-Based Confirmatory Factor Analyses and Tests of Invariance of the ASRS Screener

Model	DWLS χ^2	df	RMSEA	CFI	TLI	c	Comp.	Δdf	ΔRMSEA	ΔCFI	ΔTLI
Gender diverse individual	150.007	9	.083	.966	.944	-	-	-	-	-	-
Man	2152.120	9	.094	.944	.906	-	-	-	-	-	-
Woman	3245.994	9	.095	.940	.899	-	-	-	-	-	-
Invariance											
m1 configural	5548.122	27	.094	.942	.904	-	-	-	-	-	-
m2 metric	5668.923	37	.081	.941	.928	-	m2-m1	10	-.013	-.001	.025
m3 scalar	6857.696	47	.079	.929	.932	-	m3-m2	10	-.002	-.012	.003
m3a partial scalar	6222.904	45	.077	.935	.935	ASRS3~1	m3a-m2	8	-.004	-.006	.007
m4 residual	7042.514	59	.072	.927	.944	-	m4-m3	12	-.008	-.002	.012
m5 variance-covariance	**7500.159**	**61**	**.073**	**.922**	**.943**	**-**	**m5-m4**	**2**	**.001**	**-.005**	**-.002**
m6 means	11260.907	63	.088	.883	.916	-	m6-m5	2	.015	-.039	-.026

Note. DWLS = diagonally weighted least square estimator; χ^2 = Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis Index; RMSEA = root-mean-square error of approximation; Comp. = Comparison; ΔCFI = change in CFI value compared to the preceding model; ΔTLI = change in the TLI value compared to the preceding model; ΔRMSEA = change in the RMSEA value compared to the preceding mode; c = model constraint relaxed for given model. =~ = loadings; ~1 = intercepts; ~~ = covariances. Highlighted in bold is the level of invariance achieved.

Measurement invariance testing, implications of relaxing equality constraints on (a) Metric, (b) Scalar, and (c) Residual levels

(a) Metric: because this level tests whether factor loadings are equivalent across groups, relaxing constraints at this level suggests that the relationships between observed measures and the underlying construct of the ASRS may differ across groups. This means that while analyses and comparisons of the ASRS score across groups can still be performed (such as correlational or regression-based analyses), caution should be exercised when comparing the strength of these relationships as the lack of full metric invariance can affect the comparability of the scores.

(b) Scalar: because this level examines whether item intercepts are equivalent across groups, relaxing constraints at this level implies that the baseline of the latent construct measured by the ASRS differs between groups. Accordingly, although comparisons of the ASRS between different groups can still be performed (as in the case of partial metric invariance), inter-group comparisons of latent means should be performed with caution since differences may be affected by group-specific biases.

(c) Residual: because this level tests whether item residual variances are equivalent across groups, relaxing constraints at this level indicates that the error variances associated with the items of the ASRS are different across groups. This can potentially affect measurement reliability and precision. However, provided that scalar invariance is established, latent means and relationships among constructs can be performed – but with caution regarding the differences in measurement precision (see Millsap & Yun-Tein, 2004; Putnick & Bornstein, 2016; Vandenberg & Lance, 2000).

References - Supplemental Materials

Millsap, R., & Yun-Tein J. (2004) Assessing Factorial Invariance in Ordered-Categorical Measures, *Multivariate Behavioral Research*, *39*(3), 479-515, https://doi.org/10.1207/S15327906MBR3903_4

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Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, *3*(1), 4-70. https://doi.org/10.1177/109442810031002