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Citation for published version:

Saklofske, DH, Austin, EJ, Yan, G & Smith, MM 2016, 'Factor structure and correlates of the Mandarin version of the Managing the Emotions of Others (MEOS) scale', *International Journal of Psychology*.
<https://doi.org/10.1002/ijop.12147>

Digital Object Identifier (DOI):

[10.1002/ijop.12147](https://doi.org/10.1002/ijop.12147)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

International Journal of Psychology

Publisher Rights Statement:

© Factor structure and correlates of the Mandarin version of the Managing the Emotions of Others (MEOS) scale. / Saklofske, Donald H.; Austin, Elizabeth J.; Yan, Gonggu; Smith, Martin M.
In: International Journal of Psychology, 2015.

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Factor structure and correlates of the Mandarin version of the Managing the Emotions of Others (MEOS) scale

Donald H. Saklofske, University of Western Ontario, Canada

Elizabeth J. Austin, University of Edinburgh, Scotland

Gonggu Yan, Beijing Normal University, China

Martin M. Smith, University of Western Ontario, Canada

Short title: Factor structure of the Mandarin MEOS

Corresponding author: Dr. Elizabeth Austin, Dept. of Psychology, University of Edinburgh, 7 George Square, Edinburgh, EH8 9JZ, UK. Elizabeth.Austin@ed.ac.uk

Phone +44 131 651 1305, Fax +44 131 650 3461

Author contributions

D. H. Saklofske: Study design, interpretation of data analyses, writing

E. J. Austin: Study design, interpretation of data analyses, writing.

G. Yan: Translation of instruments, data collection.

M. M. Smith: Performing and interpreting data analyses, writing.

Abstract

The English-language version of the Managing the Emotions of Others (MEOS) scale has been found to have a six-factor structure. This includes two pairs (Enhance, Divert and Worsen, Inauthentic) which respectively describe prosocial and non-prosocial interpersonal emotion management, together with an emotional concealment factor (Conceal) and a factor assessing poor self-rated emotional skills. A Mandarin translation of the MEOS was completed by 277 Chinese student participants. Factor analysis indicated a four-factor structure comprising a merged Enhance/Divert factor, together with Worsen, Inauthentic and Conceal factors. The emergence of a different factor structure compared to Western samples may be related to culture-dependent attitudes to emotional expression. The associations of the MEOS factors with Five-Factor model personality, the Dark Triad and trait emotional intelligence (EI) were examined; these were similar to but generally weaker than those found for the English-language version.

Keywords: Emotional intelligence; emotion regulation; factor analysis.

Introduction

Cultural differences in the emotional domain have been widely studied, but a high proportion of work in this area has been on the topics of differences in the experience of emotions (e.g. Mesquita & Walker, 2003; Scherer & Brosch, 2009) and in intrapersonal emotion regulation, i.e. how an individual regulates their own emotions in response to cultural norms (e.g. Tsai & Lau, 2013). The topic of interpersonal emotion regulation, examining how cultural norms might impact how a person attempts to manage the emotions of other members of their cultural group has been relatively neglected.

Taking as a starting point the observation that emotion expression is more expected and accepted in Western than in Eastern cultures (Markus & Kitayama, 1991), and that emotion displays by one or both parties are likely to occur when one person (the actor) attempts to regulate the emotions of another (the target), the existence of cultural differences in interpersonal emotion regulation seems probable. For example, the tendency of the actor to encourage the target to express negative emotions would be expected to be governed by cultural display rules relating to emotion expression vs. self-control. Similarly, the likelihood of the use of an emotional display such happiness or anger by the actor to induce an emotion in the target, and the target's response, would be expected to depend on cultural norms for the display of the relevant emotion.

An example of cultural differences in displaying emotions is provided by a study in which female Asian-American and European-American participants were placed in a staged interpersonal situation which was likely to induce anger. The Asian-Americans reported less anger and also showed less behavioural display of anger compared to the

European-Americans, although the groups did not differ in physiological response to the anger-provoking situation (Mauss, Butler, Roberts, & Chu, 2010). As an example of cultural differences in response to emotion displays, anger expression by one party in a negotiation was found to elicit larger concessions from European-American negotiation partners but smaller concessions from Asian-American partners compared to a condition with no anger expression (Adam, Shirako, & Maddux, 2010). Such results show that culture plays a role in interpersonal emotional interactions.

In this paper we examine the functioning of a scale which assesses the dimensions of individual differences in interpersonal emotion management, the Managing the Emotions of Others Scale (MEOS; Austin & O'Donnell, 2013). Interpersonal emotion management is studied by researchers interested in the broad area of emotion regulation (e.g. Zaki & Williams, 2013) and also as a facet of emotional intelligence (e.g. Petrides, Pita, & Kokkinaki, 2007).

The MEOS was developed in English and was validated using Western samples. The scale was found to have a six-factor structure including two prosocial factors (Enhance, Divert) and two non-prosocial factors (Worsen, Inauthentic) which captured the core features of managing another's emotions. The item content of the two pro-social factors, which both relate to improving another's mood, describes Enhance as comprising approaches such as offering help or reassurance, showing understanding of the other person's feelings, and allowing the other person to express their feelings, whilst Divert comprises approaches to improving another's mood which are more action-oriented, for example, the use of humour and arranging an enjoyable activity or treat for the other person. The item content of the Worsen factor contains strategies for making another's

mood worse such as making negative or undermining comments and displaying anger. The Inauthentic factor contains items related to the use of emotional displays which might improve (inauthentic niceness, flattery) or worsen (sulking, inducing guilt) another's mood. Factors relating to Concealing one's own emotions and self-rated Poor emotion skills were also found. The Enhance and Divert scales were found to be strongly correlated with Agreeableness (A), whilst Worsen and Inauthentic were strongly correlated with the Dark Triad traits of Machiavellianism, narcissism and psychopathy (Austin & O'Donnell, 2013; Austin, Saklofske, Smith, & Tohver, 2014).

From the description of the MEOS item content and the preceding discussion, it can be seen that there is scope for cultural differences in responding to this scale to emerge. Thus it is important to examine its psychometric properties in non-Western cultures, and to determine whether its factor structure is culturally-invariant. Results from this type of study will allow the characterisation of cross-cultural similarities and differences in interpersonal emotion management. The present study examined the factor structure of a Mandarin version of the MEOS in a Chinese sample and the correlations of the obtained factors with personality, the Dark Triad and trait emotional intelligence (EI). The study used translations of the personality and EI measures employed in the initial study of the MEOS (Austin & O'Donnell, 2013).

Method

All scales were translated into Mandarin by Chinese psychologists fluent in both English and Mandarin following the procedure outlined by Hambleton and Lee (2013). While every effort was made to ensure that the items were congruent with the intent of

the original MEOS scale, some adaptations were required in the content to reflect the cultural and linguistic norms of the Chinese university student participants.

Participants

277 participants (224 female; 53 male) were recruited from a large university in Beijing, China. Participants averaged 21.02 years of age ($SD = 4.16$). The majority of participants were undergraduate students (83.2%).

Measures

Managing the emotions of others scale

The managing the emotions of others scales (MEOS) is comprised of 58-items providing scores on six subscales relating to managing the emotions of others (enhance, divert, worsen, conceal, inauthentic, and poor). Preliminary research supports the reliability and validity of the MEOS (Austin & O'Donnell, 2013; Austin et al, 2014).

Trait emotional intelligence

Trait emotional intelligence was assessed with the 30-item short form of the trait emotional intelligence questionnaire (TEIQue-SF; Petrides & Furnham, 2006). This scale has been extensively used in research, including that conducted in China (Gökçen, Furnham, Mavroveli, & Petrides, 2014; Shao, Ji, & Yu, 2013)

Dark triad

The Dirty Dozen Scale (Jonason & Webster, 2010) was selected to assess the dark triad. This is a 12-item measure comprised of three 4-item subscales assessing Machiavellianism, Psychopathy, and Narcissism. This is a widely-used scale which measures the three factor dark triad constellation (e.g. Aghababaei, Mohammadtabar, & Saffarinia, 2014).

Personality

Personality was assessed using the 20-item short form of the International Personality Item Pool-Five-Factor model (Mini-IPIP; Donnellan, Oswald, Frederick, Baird, & Lucas, 2006). The factor structure of this scale has been replicated together with the demonstration of adequate reliability across the extraversion, neuroticism, agreeableness, conscientiousness, and openness factors.

Procedure

The established research protocol at the large university in Beijing China was followed. Participation in the study was voluntary. The students completed a paper and pencil version of the scales during regular class periods. Following completion of the scales participants were debriefed.

Results

Descriptive statistics, bivariate correlations and alpha reliabilities

Full information maximum likelihood estimation showed that less than 5% of data points were missing. Means, standard deviations, alpha reliabilities, and bivariate correlations for the translated 58-item MEOS are presented in Table 1.

Table 1

*Means, standard deviations, and internal reliabilities (coefficient alphas)
for the MEOS using the factor structure obtained from Western samples*

Variable	1	2	3	4	5	6
1. Enhance	1					
2. Worsen	-.59*	1				
3. Divert	.90*	-.55*	1			
4. Inauthentic	.10	.30*	.14	1		
5. Conceal	.28*	-.25*	.28*	-.05	1	
6. Poor	-.53*	.32*	-.50*	-.01	.03	1
α	.96	.87	.92	.72	.73	.74
<i>M</i>	53.50	26.58	25.06	32.49	21.96	13.64
<i>SD</i>	13.37	7.55	6.30	6.12	4.76	3.76

*Note * $p < .01$*

Exploratory factor analysis

An exploratory factor analysis was performed to investigate dimensions underlying the translated MEOS. Based on the scree plot, eigenvalues, and past research (Austin & O'Donnell, 2013) six factors were extracted from the translated 58-item MEOS using principal axis factor analysis with promax rotation. The KMO statistic was .93. The eigenvalues for these six factors were 17.776, 4.698, 2.509, 1.695, 1.492, and 1.073 and collectively explained 55.87% of the variance.

An examination of the loadings of items on the six factor structure, and their high bivariate correlation ($r = .90$) led to the decision to merge the 'enhance factor' and 'divert factor' into a single factor. In addition, the 'poor' subscale was dropped from further analysis due to low item loadings. A total of 11 items were subsequently dropped from the original scale. Exploratory factor analysis with promax rotation was then repeated with the 47 item, 4-factor version of the translated MEOS. The KMO statistic was .94 and four factors collectively explained 49.51% of the variance with eigenvalues of 16.416, 4.426, 2.586, and 1.994. The items loading on the four factors of the modified MEOS are presented in Table 2. Means, standard deviations, coefficient alphas and bivariate correlations for the modified four-factor Mandarin MEOS and other scales used in this study are presented in Table 3.

Table 2

Items defining the four MEOS factors obtained from exploratory factor analysis of the reduced set of 47 items

Factor	Items
Enhance/Divert	<p>(ED1) If someone is being awkward, I try to defuse the situation by being cheerful and pleasant. (ED2) If someone is upset, I try to reassure them by suggesting a possible solution to their problem. (ED3) When someone is unhappy, I show that I understand how they are feeling. (ED4) If someone I know is unhappy, I allow them to express their feelings. (ED5) If someone is anxious, I try to reassure them. (ED6) When someone is in a low mood I behave in a happy and cheerful way to make them feel better. (ED7) When someone is unhappy I try to cheer them up by arranging an enjoyable activity. (ED8) When someone is dealing with a difficult situation, I encourage them by reassuring them that they are coping well. (ED9) When someone is unhappy, I reassure them that things will get better.</p> <p>(ED10) When someone is unhappy I try to cheer them by talking about something positive. (ED11) I sometimes use humour to try to lift another person's mood. (ED12) If someone lacks confidence to do a task, I encourage them to believe they can do it. (ED13) If someone is angry, I try to divert their mood by being cheerful. (ED14) If someone is feeling anxious, I try to calm them down by talking with them. (ED15) If someone is feeling angry, I try to help them understand their feelings.</p>

	<p>(ED16) If someone is feeling anxious, I try to offer practical help. (ED17) When someone is under stress I try to boost their confidence in their ability to cope. (ED18) If someone has a problem I offer to help if they need it.</p> <p>(ED19) When someone is anxious about a problem, I try to help them work out a solution. (ED20) When someone is in a bad mood I try to divert them by telling jokes or funny stories. (ED21) If someone is unhappy I make it clear that they have my support. (ED22) When someone is unhappy, I try to help them to take a more positive view of their situation.</p>
Worsen	<p>(W1) I use anger to get others to do things that I want them to do. (W2) I sometimes use my knowledge of another person's emotional triggers to make them angry. (W3) I use criticism to make others feel that they should work harder. (W4) I sometimes try to make someone feel bad by blaming them for something which I know isn't their fault. (W5) I sometimes try to undermine another person's confidence. (W6) I use displays of anger to motivate others. (W7) I can make someone feel anxious so that they will act in a particular way. (W8) I know how to make someone feel ashamed about something that they have done in order to stop them from doing it again. (W9) I know how to embarrass someone to stop them from behaving in a particular way. (W10) I can use my emotional skills to make others feel guilty. (W11) If I don't like someone's behaviour I make negative comments in order to make them feel bad.</p>
Conceal	<p>(C1) I hide my feelings so others won't worry about me. (C2) I don't believe in telling others about my problems – I keep</p>

	<p>them to myself. (C3) I often conceal feelings of anger and distress from others. (C4) If someone tries to make me feel better when I am feeling low, I pretend to feel happier to please that person. (C5) When someone has made me upset or angry, I often conceal my feelings. (C6) When someone has made me upset or angry, I tend to downplay my feelings.</p>
Inauthentic	<p>(I1) I am especially nice to people whose friendship is advantageous to me.</p> <p>(I2) If I want someone to do something for me, I try to elicit sympathy from them. (I3) I sometimes sulk to make someone feel guilty. (I4) I can pay someone compliments to get in their 'good books'. (I5) I sometimes use flattery to gain or keep someone's good opinion. (I6) I sometimes exaggerate a personal or health problem in order to gain sympathy and avoid doing a task. (I7) If someone says or does something I don't like, I sometimes sulk. (I8) I sometimes sulk to get someone to change their behaviour.</p>

Note: A full factor loading table is available on request.

Table 3

Means, standard deviations, internal reliabilities (coefficient alphas) , and bivariate correlations for the factors of the 47-item MEOS, emotional intelligence and personality

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Enhance / Divert	1												
2. Worsen	-.57*	1											
3. Conceal	.27*	-.17	1										
4. Inauthentic	.22*	.18*	.07	1									
5. Global TEI	.20*	-.08	-.02	-.02	1								
6. Machiavellianism	-.13	.20*	-.05	.26*	-.09	1							
7. Psychopathy	-.13	.02	.04	-.03	-.41*	.06	1						

8. Narcissism	.07	.14	-.04	.23*	.08	.33*	-.12	1					
9. Openness	.02	.06	.03	-.04	.33*	.13	-.11	.19*	1				
10. Conscientiousness	.24*	-.07	-.03	.10	.36*	-.06	-.26*	.11	.13	1			
11. Extraversion	.08	.12	-.15	.12	.27*	.16	-.08	.34*	.15	.08	1		
12. Agreeableness	.24*	-.22*	-.09	.07	.44*	-.03	-.30*	.17	.28*	.33*	.31*	1	
13. Neuroticism	.06	-.08	-.03	.09	-.51*	-.01	.01	.01	-.25*	-.04	-.19*	-.10	1
α	.97	.88	.74	.73	.86	.76	.40	.78	.65	.49	.76	.65	.65
M	78.61	29.10	18.93	23.81	139.70	10.58	9.07	13.83	14.20	13.52	11.95	14.61	12.18
SD	19.29	8.59	4.38	5.02	19.88	3.68	2.58	3.11	2.87	2.74	3.25	2.37	2.81

Note. * $p < .01$.

Confirmatory factor analysis

A confirmatory factor analysis framework, analyzed in Mplus 6.0 was subsequently conducted to evaluate the fit of the 4-factor translated MEOS. Full information maximum likelihood estimation was used as an estimator. Items loading onto factors 1-4 were combined into three parcels per factor by assigning items to parcels in order of loading size using balanced allocation (Austin & O'Donnell, 2013). A CFI and TLI in the range of .95 and a RMSEA in the range of .06 suggests excellent model fit (Byrne, 2012) whereas moderate model fit is indicated by a CFI and TLI in the range of .90 and a RMSEA in the range of .10 (Byrne, 2001). Following Cheung & Rensvold (2002), the comparative fit index difference test (Δ CFI) was used to compare nested models, noting that research suggests a Δ CFI \leq .01 provides strong support that the nested models being compared do not differ significantly (Byrne, 2012; Kline, 2005).

The initial model allowed all factors to be correlated. However, the Wald test indicated that the association between the 'inauthentic factor' and the merged 'emotional enhancement / divert factor' ($p = .09$), as well as the association between the 'inauthentic factor' and the 'conceal factor' ($p = .09$) were non-significant. Constraining these associations to 0 did not result in a significant loss of fit (Δ CFI = .001). The fit statistics for the final model were acceptable: $\chi^2(50) = 149.474$, CFI = .954, TLI = .939, RMSEA = .084 95% CI (.069-.100). Standardized factor loadings ranged from .60 to .97.

Discussion

In this paper the functioning of the Mandarin version of the MEOS, a scale which assesses interpersonal emotion management, in a Chinese sample was examined. The

objective of the study was to characterise differences and similarities in interpersonal emotion management at the factor level in this sample compared to the results obtained in Western cultures.

The MEOS factor structure was obtained, and the factor correlations with personality, the Dark Triad and trait EI were compared with the results from previous reported research on managing the emotions of others (Austin & O'Donnell, 2013; Austin et al., 2014) in Western samples. In contrast to the six-factor structure found in these previous studies, a four-factor structure was derived for the Mandarin MEOS. This structure arose from the merging of the Enhance and Divert scales, together with the Poor Skills scale being dropped from the analysis due to being poorly defined (low item loadings) in an exploratory factor analysis.

The reasons for the merging of the previously-found Enhance and Divert factors are clearly of interest. The factor structure of a scale depends on how respondents mentally classify its items as similar or dissimilar and it is possible that this classification process could be influenced by cultural views on emotions in interpersonal interactions. Given the greater value assigned to emotional self-control in Eastern cultures (Markus & Kitayama, 1991), the objective of reducing another's negative feelings and associated emotional displays might acquire greater salience compared to the actual means of achieving this, leading to less perceived differentiation of the enhancement and diversion strategies. A similar example of the merging of two factors of an EI scale in an Eastern sample which are distinct in Western samples is the combined sociability/emotionality factor which resulted from a factor analysis of the adolescent version of the TEIQue in Hong Kong adolescents (Mavroveli & Siu, 2012). Commenting on this result, the authors

suggest that it might be explained by cultural differences in EI development relating to less encouragement of emotional expression in collectivistic cultures.

Cultural differences in attitudes to emotion-focussed and problem-focussed social support may also be relevant to the observed differences in the MEOS factor structure. A study of types of social support provision self-reported by European-Americans and Japanese (Chen, Kim, Mojaverian, & Morling, 2012) showed that the former provided more emotion-focussed than problem-focussed support whilst the latter provided equivalent amounts. In the specific context of improving another's mood, the two types of social support broadly map onto the strategies of enhancing and diverting, again suggesting that the two might be less differentiated in Eastern cultures. The current factor-analytic results do not provide direct evidence for the interpretations presented here, but the literature cited suggests lines of enquiry for future work on the relatively neglected area of cultural differences in interpersonal mood management.

Comparing the correlations amongst the MEOS factors with those obtained previously, it was found that the merged Enhance/Divert factor was strongly negatively correlated with Worsen with a correlation size (-.57) that is larger than that of corresponding correlations found with the English-language MEOS. In the previous studies the Enhance/Worsen correlations ranged from -.31 to -.16 and the Enhance/Inauthentic correlations from -.14 to -.06 (Austin & O'Donnell, 2013; Austin et al., 2014). This difference suggests that prosocial mood improvement and non-prosocial mood-worsening are more differentiated in the Chinese group, in the sense that they are less likely to both form part of the behavioural repertoire of a particular individual. Previous Enhance/Inauthentic (range -.15 to -.04) and Divert/Inauthentic correlations

(range -.01 to .10) were also weaker than in the current data (.22 for the correlation of Enhance/Divert with Inauthentic); the positive sign here is difficult to interpret.

When considering the correlations of the MEOS subscales with personality, the Dark Triad and trait EI, it is most appropriate to consider results for the English language versions of the same scales (Austin & O'Donnell, 2013). From Table 3 it can be seen that Psychopathy and Conscientiousness have low internal reliabilities, suggesting that the translations of these scales did not function well. Comparing the remaining correlations shows a general pattern of weaker associations compared to the English-language MEOS. Some features of the pattern observed with the English-language scale are however seen, with the Enhance/Divert factor being positively associated with Agreeableness and the Worsen and Inauthentic factors being positively associated with Machiavellianism and narcissism. The associations of the MEOS subscales with trait EI were also found to be weaker than for the English-language MEOS, with only the Enhance/Divert factor being significantly (positively) correlated with EI.

Thus, the general pattern of associations provides some validity evidence for the Mandarin version of the MEOS, but further validation will be required using personality and Dark Triad scales which have been validated in the Chinese population, as it is not possible from the current results to establish whether the observed weaker association pattern arises from cultural differences associated with the MEOS itself, or differences relating to the short personality and Dark Triad scales used in the study. In addition to the use of different personality measures, the MEOS factor structure requires further examination in samples more representative of the general Chinese population.

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