

# Multicultural personality and effectiveness in an intercultural training simulation: The role of stress and pro-active communication

Joep Hofhuis<sup>1</sup>, Marike F. Schilderman<sup>2</sup>, and Arjan Verdooren<sup>3</sup>

<sup>1</sup>Erasmus Research Centre for Media, Communication, and Culture (ERMeCC), Erasmus University Rotterdam, Rotterdam, The Netherlands

<sup>2</sup>Graduate School of Communication, University of Amsterdam, Amsterdam, The Netherlands

<sup>3</sup>Koninklijk Instituut voor de Tropen (KIT, Royal Tropical Institute), Amsterdam, The Netherlands

Multicultural personality traits have been shown to predict intercultural outcomes in a range of settings. However, how these traits affect behaviour during intercultural interactions remains an understudied area. A study was conducted among participants in intercultural training sessions, to examine whether scores on the five dimensions of the Multicultural Personality Questionnaire (MPQ) could predict how they performed in the intercultural simulation game “Barga.” Both a self-rating and other-rating of intercultural effectiveness were included. Furthermore, we examined whether perceived stress and pro-active communication played a mediating role. Results of Latent Growth Curve Modelling (LGCM) show that emotional stability has a positive effect on mean scores (intercept) of both self-rated and other-rated outcomes, mediated through perceived stress. Social Initiative has a positive effect on the rate of improvement (slope) in other-rated outcomes during the simulation, mediated through pro-active communication.

**Keywords:** Multicultural personality; Intercultural communication; Intercultural training; Stress; Pro-active communication.

## INTRODUCTION

Due to globalisation and increased international mobility, interactions between individuals with different cultural backgrounds have become much more commonplace. Scholars have recognised that individuals react differently to cultural diversity in their social environment, leading to different degrees of intercultural effectiveness (Van der Zee & Van Oudenhoven, 2013). One of the most important predictors of these reactions is personality, often operationalised in terms of the Big Five personality traits (e.g., Ward, Leong, & Low, 2004). However, in a meta-analysis, Wilson, Ward, and Fischer (2013) conclude that domain-specific personality traits, such as cultural empathy and cross-cultural self-efficacy, explain more variance in intercultural effectiveness than more general personality traits.

## Multicultural personality

Several personality frameworks have been developed that are specific to the cross-cultural domain, leading to sets of traits that are together referred to as *multicultural personality*. In an overview of this concept, Ponterotto (2010) explains that the term was first used by Ramirez (1999), who developed a personality model focused on mental health of ethnic/racial minorities. The most commonly known multicultural personality framework is the *Multicultural Personality Questionnaire* (MPQ; Van der Zee & Van Oudenhoven, 2001), which is anchored in organisational and cross-cultural psychology. The MPQ was initially developed for assessing intercultural effectiveness of sojourners, such as international students and expatriates, during their stay abroad. Over the past two decades, however, its

Correspondence should be addressed to Joep Hofhuis, Erasmus University Rotterdam, PO Box 1738, 3000 DR, Rotterdam, The Netherlands. (E-mail: [j.hofhuis@eshcc.eur.nl](mailto:j.hofhuis@eshcc.eur.nl)).

All authors contributed equally to conception, design and data collection of the study. The first author was responsible for data analysis, interpretation and drafting of the article.

use has been extended to different populations and contexts.

The MPQ distinguishes between five traits: *Emotional Stability* reflects the individuals ability to stay calm under novel and stressful conditions; *Flexibility* is the ability to switch easily from one behavioural strategy to another; *Openmindedness* refers to an open and unprejudiced attitude towards cultural differences; *Cultural Empathy* refers to empathising with the feelings, thoughts and behaviours of individuals from a different culture; *Social Initiative* refers to a tendency to actively approach social situations, initiating communication rather than waiting and watching. It is important to note that many of the items of the MPQ are not specifically formulated towards intercultural contexts, and display significant overlap with those of the Big Five. The MPQ dimensions as a whole, however, have been specifically tailored to reflect domain-specific constructs that play a role in intercultural interaction. Through a myriad of studies, the MPQ has been revealed as one of the most robust instruments for assessing multicultural personality, and intercultural competence in general (Matsumoto & Hwang, 2013).

Earlier studies link MPQ dimensions to many intercultural outcomes, such as sociocultural adjustment (Van Niejenhuis, Otten, & Flache, 2018), acculturation strategies (Luijters, Van der Zee, & Otten, 2006), and expatriates' job satisfaction (Van Oudenhoven, Mol, & Van der Zee, 2003). The MPQ also predicts attitudes, such as international aspirations (Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2012), diversity beliefs (Hofhuis, Van der Zee, & Otten, 2015), and workplace discrimination (Horverak, Sandal, Bye, & Pallesen, 2013).

An understudied area in the field of intercultural competence in general, and multicultural personality in particular, is the link with behaviour and effectiveness in real-life intercultural interactions (Adler & Aycan, 2018). Some evidence exists for a positive relationship between the MPQ and productivity in diverse teams (Wöhrle, Van Oudenhoven, Otten, & Van der Zee, 2015), but we still know surprisingly little about how high-scoring individuals perform in intercultural contexts, and which behaviours they might display. The present study was designed to shed new light on this issue by examining the influence of the five MPQ dimensions on effectiveness in an intercultural simulation game. By exploring the influence of multicultural personality on simulated interactions first, we aim to provide new insights which may help future researchers study similar processes in real-life intercultural interactions.

### **Barnga, an intercultural simulation game**

To simulate intercultural interactions in a training environment, we used a well-known game named "Barnga," which was specifically designed for this purpose (Thiagarajan & Steinwachs, 1990). Barnga is often

recommended as a tool for group-based intercultural training (Dalsky & Landis, 2013) and has been used previously in (quasi-) experimental studies on interpersonal interaction (e.g., Ushida, Hattori, & Takdama, 2010). It fits the tradition of Experiential Learning Theory (ELT: Kolb, Boyatzis, & Mainemelis, 2001), which emphasises *learning-by-doing*, and the role of affect (over cognition) in learning processes.

During the game, individuals are divided into tables of 3–4 players. Each table plays an interactive card game, using regular playing cards 2–7 and Ace. A round of play takes approximately 5–10 minutes, and consists of a series of "tricks" in which each player plays one card. The player who has played the highest card wins the trick. The object of the game is to win as many tricks as possible. Players continue playing tricks until they run out of cards. Then, the cards are shuffled, divided again, and a new round of play starts.

The defining characteristic of Barnga is that, unknown to the players, each table is given a slightly different set of rules. At some tables, the Ace is considered the highest card in the game, at other tables, it is the lowest. Furthermore, at some tables one suit is considered a "trump" suit, which means cards of that suit are higher than cards of any other suit. The trump suit may differ per table, and for some tables no trump suit is named at all.

After the first round of play, the winner moves to a different table. The cards are shuffled and distributed again, and a new round starts. Without realising it, participants are now playing together with others who have a different set of rules. This causes confusion about which card is the highest in the trick, leading to ambiguous situations and conflictual interactions between players. The result is an unpredictable social environment, with lowered psychological safety, which is meant to simulate a culturally diverse environment, and to evoke the same emotions and behaviours that would occur in real-life intercultural interactions. The game is played in complete silence—no talking is allowed—which prevents players from discussing their specific set of rules, and simulates the language barrier which often occurs in intercultural communication.

### **Multicultural personality and effectiveness in Barnga**

Although players are instructed to win as many rounds as possible, this is a poor indicator of intercultural effectiveness. Barnga is purposely designed to be unfair, since players are playing by different sets of rules. Its real value lies in revealing individual reactions to ambiguous social situations. Therefore, in this study, effectiveness is defined as the players' ability to successfully cope with social ambiguity, measured through self-report, as well as their ability to maintain a positive relationship with their co-players, measured through peer-evaluation.

Furthermore, as the rounds progress, players come to understand that there are different sets of rules, and start to adjust their behaviour. Aside from a higher average score on self-reported and peer-evaluated effectiveness, success is therefore also defined as the ability to improve these scores in subsequent rounds, and become better at dealing with intercultural ambiguity over time.

In line with Experiential Learning Theory, players of *Barnga* go through a process of (a) experiencing the interaction, then (b) conceptualising and interpreting the situation, followed by (c) reflective observation and finally (d) experimenting with new behaviour to remedy the ambiguous or conflictual situations they are experiencing (Kolb et al., 2001). The main premise of the present study is that individuals who score high on the MPQ will be better equipped to deal with the situation, and will learn from their experiences more quickly. A theoretical basis for these expectations can be found in earlier work by Van der Zee and Van Oudenhoven (2013), who review the different mechanisms that are responsible for the effects of the MPQ dimensions on intercultural outcomes and attitudes mentioned earlier. They divide the five MPQ dimensions into two subsets: stress-related and social-perceptual traits. The stress-related traits, *Emotional Stability* and *Flexibility*, are said to reduce the sense of threat that individuals experience as a result of being confronted with different cultures. The social-perceptual traits, *Cultural Empathy*, *Openmindedness*, and *Social Initiative*, increase the likelihood that individuals perceive intercultural interactions as a challenge rather than a threat (Van der Zee & Van Oudenhoven, 2013). In theory, these latter traits should correlate with the quality of interpersonal communication that they are able to initiate with different others. Below we will outline our predictions with regard to the effects of the MPQ dimensions on intercultural effectiveness in *Barnga*, and how these effects are mediated through the level of stress that players experience during the game, as well as through the amount of pro-active communication that they display during the rounds of play.

### Stress-related traits

This notion that emotional stability contributes to intercultural effectiveness is well documented. Most research shows that it is essential for coping with the stress of intercultural interactions, and that individuals who score high on this trait are better able to regulate their (negative) emotions (Ward et al., 2004). As such, we predict emotional stability will have a direct positive impact on self-reported effectiveness. Additionally, we predict that emotional stability will also affect peer-evaluated effectiveness. In a game of *Barnga*, staying calm during conflictual situations, and not succumbing to negative emotions, is likely to be a major predictor of interaction

quality, and should be directly measurable in the evaluations that players receive from their peers at the table.

Secondly, being flexible in behaviour will further enhance the individual's ability to cope with stressors, and circumvent some of their negative effects (Van der Zee & Van Oudenhoven, 2013). Experiential Learning Theory posits that behavioural experimentation is a crucial part of, and greatly improves, social learning processes (Kolb et al., 2001). In the context of a game of *Barnga*, we expect that flexibility will specifically enhance the player's ability to adjust behaviour in subsequent rounds, and thereby increase the level of improvement in effectiveness during the game.

Finally, in line with the studies mentioned above, we expect that these effects are mediated through a reduction in self-reported stress during the game, because the traits will help to negate the effects of uncertainty and lack of control that individuals experience in intercultural interactions (Van der Zee & Van Oudenhoven, 2013).

**H1ab.** There is a positive relationship between emotional stability and overall (a) self-reported and (b) peer-evaluated effectiveness.

**H2ab.** There is a positive relationship between flexibility and the rate of improvement of (a) self-reported and (b) peer-evaluated effectiveness.

**H3.** The positive effects of emotional stability and flexibility on effectiveness (H1-2) are mediated through a reduction in stress.

### Social-perceptual traits

It has been established before that social personality traits such as agreeableness are positively related to expatriates' ability to interact with locals (Huang, Chi, & Lawler, 2005). In the context of this study, cultural empathy and openmindedness may be related to a player's ability to notice and understand different sets of rules in the game of *Barnga*, which could aid in the processes of conceptualization and reflective observation. As such, we predict that the traits of openmindedness and cultural empathy may increase the overall self-reported and peer-evaluated effectiveness of players. Those who score high on these traits may be better able to understand what is happening during the game, and may be better able to steer the situation towards more favourable outcomes.

Furthermore, social initiative is likely to be very important in initiating communication with other players. It has been shown that extraversion, a closely related trait, creates more opportunities for social learning, and that social interaction is needed to challenge assumptions and improve intercultural effectiveness (Tadmor, Hong, Chao, Wiruchnipawan, & Wang, 2012). Although verbal communication is not allowed during a game of *Barnga*, individuals often engage in non-verbal communication

to negotiate the different rules they are confronted with. This streamlines interactions, and enhances the level of improvement in subsequent rounds. Scoring high on social initiative is likely to be a strong predictor of this type of behaviour.

In sum, we predict that openmindedness and cultural empathy will predict overall effectiveness, whereas social initiative is more likely to predict the level of improvement that players display over time. We expect these effects to be mediated through the degree of pro-active communication that players display during the game.

**H4ab.** There is a positive relationship between openmindedness and overall (a) self-reported and (b) peer-evaluated effectiveness.

**H5ab.** There is a positive relationship between cultural empathy and overall (a) self-reported and (b) peer-evaluated effectiveness.

**H6ab.** There is a positive relationship between social initiative and the rate of improvement of (a) self-reported and (b) peer-evaluated effectiveness.

**H7.** The positive effects of openmindedness, cultural empathy and social initiative on effectiveness (H4-6) are mediated through pro-active communication.

## METHODS

### Participants and procedure

Our hypotheses were tested among individuals who enrolled in intercultural workshops at a commercial training firm in the Netherlands. The workshops were aimed at individuals working in an international environment and/or who (expect to) move abroad for occupational reasons. The participants were charged a fee for enrolling. After signing up, participants were sent a link to a digital survey, to assess their multicultural personality. Several weeks later, participants took part in the workshop, which was led by a professional trainer.

During the workshop, participants played a total of four rounds of Barnaga. The first round was considered a practice round, since all players were still playing together with others who used the same rules. After rounds 2, 3 and 4, in which the intercultural simulation took place, participants filled out paper surveys. After the fourth round, participants were debriefed, and discussed the outcomes of the game as part of the intercultural training. All procedures performed in this study were in accordance with the Netherlands Code of Conduct for Research Integrity, as formulated by the Association of Universities in the Netherlands (VSNU, 2018), and with the 1964 Helsinki Declaration and its later amendments. Informed consent was obtained from all participants included in the study.

The final sample used to test our hypotheses consisted of 116 participants ( $M_{\text{age}} = 37.8$ ;  $SD = 13.4$ ; 53.4% female), who took part in five separate workshops of 20–25 participants each. Education level was high, 90.6% had completed a bachelor's or higher degree, which is typical for individuals who enrol in commercial intercultural training. Most had the Dutch nationality (77.3%), others came from a wide range of Western and Non-western countries such as Germany, the United Kingdom, Indonesia, Vietnam and South-Africa. The language of the workshop was English. Surveys and game instructions were provided in English and Dutch; participants chose which they felt most comfortable with. Only 14 respondents chose to complete the Dutch version. Because no significant differences were found between the language groups on any of the study's variables, we assume them to be equal.

Informed consent was obtained from all participants included in the study.

### Measures

Multicultural personality was assessed using the 40-item short form of the Multicultural Personality Questionnaire (MPQ-SF: Van der Zee, Van Oudenhoven, Ponterotto, & Fietzer, 2013), which asks respondents to self-report whether certain personality characteristics are applicable to themselves, on a 5-point Likert Scale (1 = not at all applicable, 5 = completely applicable). *Emotional Stability* was measured using 8 items, such as "Keeps calm when things don't go well" ( $\alpha = .92$ ); *Flexibility* was measured using 8 items, such as "Looks for regularity in life" [Reversed] ( $\alpha = .82$ ); *Openmindedness* was measured using 8 items, such as "Seeks people from different backgrounds" ( $\alpha = .98$ ); *Cultural Empathy* was measured using 8 items, such as "Pays attention to the emotions of others" ( $\alpha = .90$ ); *Social Initiative* is measured using 8 items, such as "Is inclined to speak out" ( $\alpha = .88$ ). A confirmatory factor analysis was conducted to assess the intended factor structure of the MPQ-SF. Factor loadings ranged from .50 to .84 for emotional stability, .43 to .92 for flexibility, .68 to .83 for openmindedness, .51 to .92 for cultural empathy, and .47 to .88 for social initiative, which are comparable to the original validation of the short form (Van der Zee et al., 2013) and sufficient for aggregating items into five dimensions.

After each round, *Self-Reported Interaction Effectiveness* was measured using seven items from the Day Reconstruction Method (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). Participants were asked to which degree they experienced positive (e.g., "happy," "at ease") or negative (e.g., "frustrated," "annoyed") affect during the last round, on a 5-point Likert scale (1 = not at all; 5 = very much). Negative items were



**TABLE 1**  
Descriptive statistics and correlations

Variables	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Emotional stability	3.55	.76	-	.23*	.01	.12	.00	-.38***	.06	.22*	.17	.11	.02	-.01	.07
2. Flexibility	3.66	.48		-	.22*	.33***	.06	-.14	.09	.17	.14	.23*	-.08	-.02	.11
3. Openmindedness	3.96	.50			-	.40***	.17	-.03	.10	.18	.06	.19*	.12	.14	.25**
4. Cultural empathy	4.07	.44				-	.16	-.01	.05	.01	-.01	.04	.01	.06	.12
5. Social initiative	3.60	.69					-	-.03	.21*	.11	.03	.00	-.08	.21*	.20*
6. Stress	2.34	1.46						-	-.25**	-.29**	-.34***	-.30***	-.30***	-.37***	-.32***
7. Pro-active communication	4.95	1.57							-	.10	.18	.21*	-.11	.30***	.57***
8. Self-reported effectiveness R2	5.63	1.12								-	.60***	.59***	.30***	.33***	.14
9. Self-reported effectiveness R3	5.67	1.16									-	.61***	.19*	.38***	.18
10. Self-Reported effectiveness R4	5.63	1.17										-	.18	.21*	.29**
11. Peer-evaluated effectiveness R2	5.19	1.24											-	.49***	-.13
12. Peer-evaluated effectiveness R3	5.57	.97												-	.26**
13. Peer-evaluated effectiveness R4	5.75	1.19													-
Age	37.8	13.4	.34***	.10	.21*	.24*	.02	.01	-.03	.14	.10	-.02	.00	-.08	.02
Gender			.27**	-.06	-.23*	-.10	-.09	.14	-.07	-.01	-.01	-.20*	-.13	-.10	-.17

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ;  $n = 116$ .

reversed, such that a high score reflects positive affect. The scale was found to be reliable in each round ( $\alpha > .84$ ).

Also after each round, participants were also asked to provide a *Peer-Evaluation* of the other players at their table, using a semantic differential scale by Ohanian (1990), which included five word pairs such as “sincere – insincere” and “trustworthy—untrustworthy,” rated on a 5-point scale. The reliability of the scale was high enough ( $\alpha > .82$ ) to be able to aggregate the items into a single score. Each participant was rated by 2 or 3 co-players in each round. Interrater reliability was satisfactory (Krippendorff’s Alpha = .80).

At the end of the last round, we measured participants’ overall *Stress*, using three items, asking them to which degree they felt “stressed,” “nervous” and “upset” (Cohen, 1988), on a 7-point Likert scale (1 = not at all; 7 = very much;  $\alpha = .81$ ).

*Pro-active Communication* was measured using three original items: “I was actively trying to advance the entire group during the game,” “I made attempts to interact with others without communicating verbally” and “I remained passive as the game unfolded,” in combination with a 7-point Likert scale (1 = not at all, 7 = very much;  $\alpha = .61$ ).

Age (in years) and Gender (0 = female, 1 = male) were included as control variables. Descriptive statistics and correlations between the study’s variables are displayed in Table 1.

## RESULTS

### Model construction

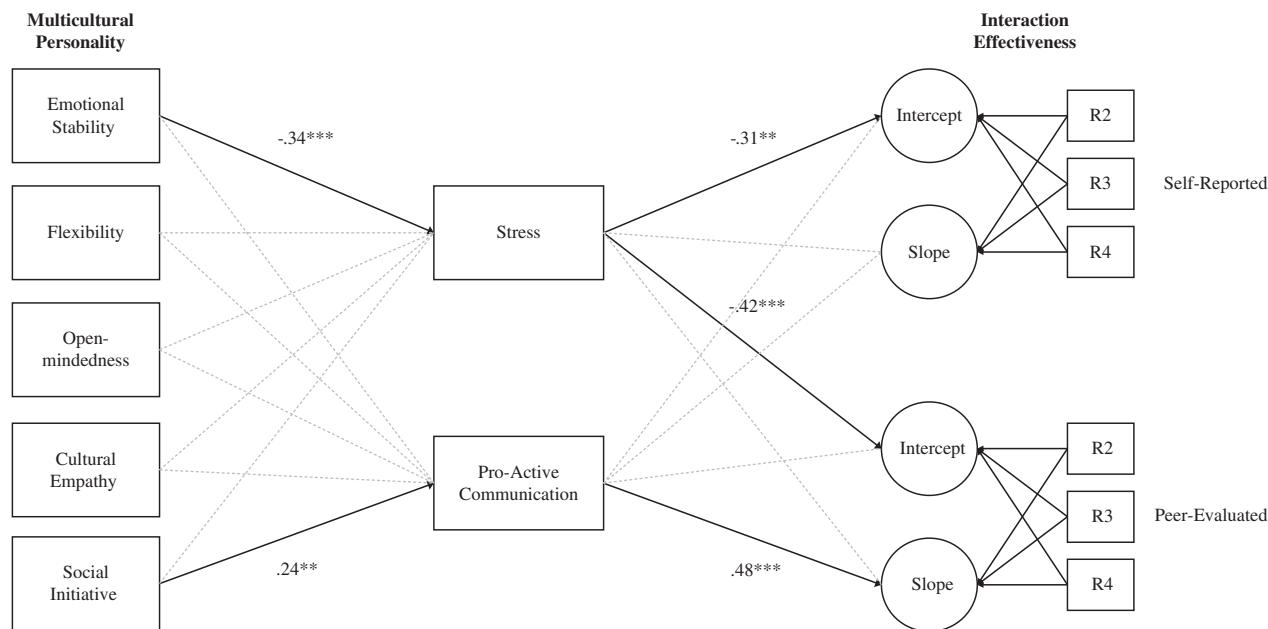
We tested our hypotheses using a structural equation model with latent variable growth curves, allowing us to examine the dependent variables’ influence on both the mean effectiveness (intercept) over rounds 2, 3 and 4, as well as the degree to which individuals’ effectiveness increased over time (linear slope).

The study’s sample size limited the complexity of the model that could be tested. It has been established that latent growth curve models can be reliably estimated with a sample size comparable to ours, provided that the associations between constructs are expected to be moderate or strong (Fan, 2003). Our data fit this requirement, but to reduce complexity, mean scores of each construct were entered into the model as manifest variables.

The model was constructed in MPlus 7.4 (Muthén & Muthén, 2015). Missing data were estimated using Maximum Likelihood estimation. Direct and indirect effects were assessed using bootstrapping (1,000 iterations).

We tested the full hypothesized model including the five MPQ dimensions, intercepts and slopes of both outcome variables, and two mediators. Model fit was good ( $\chi^2(22) = 30.908$ ;  $p = .098$ ; comparative fit index = .97; tucker-lewis index = .90; root mean square error of approximation [RMSEA] = .06, 90% C.I. [.00–.11]; standardized root mean square residual = .04).

Because the sample size of the study was limited, we conducted a *post-hoc* power analysis, using GPower 3.1



**Figure 1.** Structural model with latent growth curves. *Note:* This figure displays standardised estimates. Non-significant paths are greyed out for clarity. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

(Faul, Erdfelder, Buchner, & Lang, 2009). The observed  $R^2$  for dependent variables ranged between .22 and .56, which, in combination with our sample size ( $n = 116$ ) and the number of predictors in the model (7), corresponds to statistical power above the conventional desired level of .80.

### Intercept and slope variance

Before testing hypotheses, we examined the means and variances of intercept and slope for both outcome variables. For self-reported effectiveness, the intercepts varied significantly ( $M_{\text{int}} = 4.14$ ;  $SE = 1.29$ ;  $p = .001$ ;  $\sigma^2_{\text{int}} = .63$ ;  $SE = .19$ ;  $p = .001$ ), indicating there are considerable differences between participants in their self-reported effectiveness. The mean slope was not significant ( $M_{\text{slope}} = .21$ ;  $SE = .65$ ;  $p = .748$ ), and neither was its variance ( $\sigma^2_{\text{slope}} = .02$ ;  $SE = .09$ ;  $p = .858$ ), indicating no significant development across rounds on this outcome variable.

For peer-evaluated effectiveness, we again found significant intercept variance ( $M_{\text{int}} = 7.42$ ;  $SE = 1.41$ ;  $p < .001$ ;  $\sigma^2_{\text{int}} = 1.05$ ;  $SE = .23$ ;  $p < .001$ ), which means the other-ratings differed significantly between participants. Furthermore, although the mean slope is not significant ( $M_{\text{slope}} = -1.22$ ;  $SE = .94$ ;  $p = .74$ ), we did find significant slope variance ( $\sigma^2_{\text{slope}} = .42$ ;  $SE = .11$ ;  $p < .001$ ), which shows that the degree to which other-rated effectiveness develops over time, differs between participants, and can be both positive and negative.

### Hypothesis testing

Figure 1 shows the standardised estimates of significant paths in the model. In the figure, non-significant paths were greyed out for clarity, but all estimates can be found in Table 2.

First, we predicted positive effects of emotional stability on the intercepts of both self-reported and peer-evaluated effectiveness. No direct effects were found, but we did find an indirect relationship: emotional stability has a negative effect on stress, which in turn has a negative effect on the intercept of self-reported effectiveness. This indirect effect through stress is significant ( $b^* = .11$ ;  $SE = .05$ ;  $p = .033$ ). Hypothesis 1a is therefore confirmed, and the effect is mediated through stress, which is in line with Hypothesis 3.

Emotional stability is also found to relate to the intercept of peer-evaluated effectiveness. Again, an indirect effect is found through stress ( $b^* = .14$ ;  $SE = .05$ ;  $p = .005$ ). This confirms hypothesis 1b, and the effect is again mediated as predicted in hypothesis 3. In sum, emotional stability is a major predictor of overall effectiveness in a game of Barnaga, and this can be explained through the notion that players who score high on this trait experience less stress during the game.

Flexibility was predicted to relate to the slopes of both self-reported and peer-evaluated effectiveness. These predictions are not supported by the data, as no relationships are found between this trait and any of the other variables in the study. We therefore reject hypotheses 2a and 2b.

We also predicted both openmindedness and cultural empathy to enhance overall effectiveness of players

**TABLE 2**  
Standardised model estimates ( $n = 116$ )

Predictor	Self-Reported					
	Intercept			Slope		
	$b^*$	SE	$p$	$b^*$	SE	$p$
Stress	-.31	.12	.010	-.13	.33	.696
Pro-active communication	-.02	.11	.836	.40	.55	.465
Emotional stability	.13	.12	.281	-.51	.67	.446
Flexibility	.14	.12	.230	.24	.39	.550
Openmindedness	.20	.12	.094	-.03	.29	.916
Cultural empathy	.21	.12	.089	.14	.33	.683
Social initiative	.17	.11	.119	-.50	.65	.443

Predictor	Peer-Evaluated					
	Intercept			Slope		
	$b^*$	SE	$p$	$b^*$	SE	$P$
Stress	-.42	.10	.001	.15	.11	.167
Pro-active communication	-.17	.10	.081	.48	.09	.001
Emotional stability	-.08	.10	.422	.01	.11	.950
Flexibility	-.14	.10	.164	.11	.11	.316
Openmindedness	.17	.10	.089	-.02	.11	.882
Cultural empathy	-.04	.11	.740	.01	.11	.919
Social initiative	-.05	.10	.632	.14	.10	.171

Predictor	Stress			Pro-active communication		
	$b^*$	SE	$p$	$b^*$	SE	$P$
Emotional stability	-.34	.09	.001	.01	.10	.945
Flexibility	-.04	.10	.659	.08	.10	.438
Openmindedness	.01	.10	.907	.05	.10	.601
Cultural empathy	-.08	.10	.431	-.04	.11	.728
Social initiative	.02	.09	.864	.24	.09	.010

during the game, but no evidence was found for these relationships in the present study. Both traits appear to be unrelated to outcomes, prompting us to reject hypotheses 4ab and 5ab.

Finally, we predicted social initiative to be positively related to the slopes of self-reported and peer-evaluated effectiveness, mediated through pro-active communication. We did not find any direct or indirect effects of this trait on self-reported effectiveness, thereby rejecting hypothesis 6a. However, we did find a significant positive effect on pro-active communication, which in turn was positively related to the slope of peer-evaluated effectiveness. The indirect effect of social initiative on the slope of peer-evaluated effectiveness through the mediator is also significant ( $b^* = .11$ ;  $SE = .05$ ;  $p = .022$ ). Therefore, we can accept hypotheses 6b and 7.

## DISCUSSION

### Summary of findings and theoretical implications

The main aim of the present study was to examine whether the five dimensions of the Multicultural Personality

Questionnaire can predict how individuals behave in the intercultural simulation game Barnga. Our results show that two of the five MPQ dimensions are related to intercultural effectiveness in this context. Individuals who score high on emotional stability display higher mean scores on both self- and other-rated effectiveness. We also confirmed that these effects are mediated through a reduction in participants' stress-levels during the interaction. These findings are in line with earlier research showing that emotional stability increases coping with intercultural stress and enhances intercultural outcomes (Huang et al., 2005; Van der Zee & Van Oudenhoven, 2013; Ward et al., 2004).

Second, our findings show that social initiative may also have a positive impact on intercultural interaction. Although their average scores on effectiveness are not significantly higher, those who score high on this trait display a greater *increase* in other-rated effectiveness as the game progresses. In other words, they appear to adapt more quickly to the ambiguous situation, and are better able to regulate interpersonal interactions than those who score lower on this trait. Our results also show that this effect is mediated through pro-active communication;

individuals who display social initiative actively seek non-verbal contact with co-players, and try to overcome the simulated cultural barriers through indirect negotiation and information exchange, which improves the degree to which they are liked and trusted by their co-players.

Unexpectedly, the other traits did not appear to relate to effectiveness in this particular intercultural simulation, nor to the levels of stress or pro-active communication that participants reported during the game. It appears that they do not directly enhance individuals' ability to negotiate the social ambiguities of *Barnga*. Naturally, this does not mean they may not contribute to intercultural interaction in other contexts. We can, however, conclude that for this particular type of simulated interaction, the ability to stay calm is more important than being able to adjust behaviour, and the tendency to initiate (non-verbal) communication has more positive effects on peer evaluations than participants' levels of openmindedness or empathic abilities.

An interesting contribution of the present study is that, through examining the role of mediators, we have provided additional evidence for the distinction between stress-related and social-perceptual traits of the MPQ, as proposed by Van Oudenhoven and Van der Zee et al. (2013). Emotional stability enhances outcomes due to a reduction in perceived stress, whereas social initiative enhances the ability to communicate with others. This is a first step in further teasing out the type of behaviours that are associated with both traits, and making a more profound distinction between stress-related and social-perceptual dimensions.

The main contribution of this study to existing literature, is by providing evidence that multicultural personality not only has a positive impact on attitudes and adjustment outcomes, but is also directly related to behaviour and interpersonal effectiveness in intercultural situations. The link between personality and intercultural behaviour is often assumed, but rarely studied (Adler & Aycan, 2018). Our findings provide some preliminary insights in how MPQ dimensions affect intercultural effectiveness in a training simulation, and through which mechanisms these effects occur. It is our opinion that to further establish ecological validity and practical applicability of the MPQ and other multicultural personality frameworks for real-life intercultural situations, more studies such as the one presented here need to be conducted.

### Limitations and future research

The study also has several limitations that could be addressed in future research. First, although the game *Barnga* is specifically designed to simulate intercultural interaction, and has proven to be a very effective tool in intercultural training, it is not a perfect representation of real-life intercultural interactions, thus, limiting

generalizability of our findings. *Barnga* mimics the ambiguities that result from cultural diversity, but it does not capture the deeper psychological effects associated with cultural interactions such as negative stereotypes, intercultural threat and interpersonal conflict (Van der Zee & Hofhuis, 2018). We hope that our findings inspire future researchers to further test the effects of multicultural personality on intercultural communication in its true ecological context. For example, replicating our findings among international students or expatriates during their sojourn would be a logical next step in this research line. By observing intercultural interactions in a culturally diverse classroom or workplace, scholars could further tease out the effects of multicultural personality traits on interpersonal behaviour. Perhaps such research may also reveal additional effects of the other dimensions which were not found to predict outcomes in the present study, as they may play a more prominent role in interactions which include more complex intercultural cognitions and biases. We hope our study may inspire future researchers to become active in this avenue of exploration.

Another limitation of the present study was its sample size. Although the sample was sufficiently large to estimate a simple latent growth curve model, and our post-hoc tests showed sufficient statistical power, a larger sample size would have further increased the reliability of model estimates. Nevertheless, the support that was found for the strong effects of emotional stability and social initiative, including mediations by the predicted variables of stress and pro-active communication, provides confidence in our results. The type of individuals that participated in our study may also have reduced generalizability of our findings. As was mentioned above, participants were generally highly educated, and were able and motivated to pay a fee for participating in an intercultural training. As such, the sample may have been slightly biased towards participants who already scored higher on the MPQ dimensions than the average population. As with any field study, generalizability should be established through replicating our findings in different contexts, with different groups of participants.

The final methodological limitation of this study is that the mediators in the model, stress and pro-active communication, were only measured at the end of the game, after round 4, whereas the outcome variables, self-reported and peer-evaluated interaction effectiveness, were measured at the end of each round separately. This approach allowed us to construct latent growth curves for the outcome variables and assess their development across rounds, but we were unable to assess the development of the mediators over time. To fully establish the longitudinal relationships between MPQ traits, mediators and outcomes across different rounds of *Barnga*, we recommend future scholars include a measure of stress and pro-active communication at different time points, and take into account their longitudinal influence on outcomes variables.



## Practical implications

The findings presented above may have implications for any practitioners active in intercultural training and assessment, international education or diversity management. First, in line with Experiential Learning Theory (ELT: Kolb et al., 2001) this study emphasises the relevance of providing behavioural strategies for intercultural learning. Intercultural training should create opportunities to experience ambiguity and unfamiliarity, experiment with behaviour, and provide opportunity for reflection. The results of the present study can be used to further specify the effects of emotional stability and social initiative in intercultural workshops, and may help professional trainers guide participants' behavioural learning. For example, reflection on one's own tendencies towards emotional stability could help people develop effective coping strategies for dealing with intercultural stress. Social initiative, meanwhile, could be enhanced through roleplay exercises, where participants can expand their repertoire of behaviour. Generally, this study provides reason to steer away from training approaches that centralise knowledge of cultural difference, in favour of approaches that emphasises the individual reactions towards cultural diversity and the potential challenges that interactions bring to the table (Hoffman & Verdooren, 2018).

The present study adds to our knowledge of intercultural competences by linking the MPQ traits to outcomes of a simulated intercultural interaction, as reported by the individuals themselves, as well as by their interaction partners. We hope that the findings presented here may have an impact on the usability of the MPQ and related instruments in educational, training and organisational contexts.

Manuscript received January 2019

Revised manuscript accepted December 2019

## REFERENCES

- Adler, N. J., & Aycan, Z. (2018). Cross-cultural interaction: What we know and what we need to know. *Annual Review of Organizational Psychology and Organizational Behavior*, 5(1), 307–333. <https://doi.org/10.1146/annurev-orgpsych-032117-104528>
- Cohen, S. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The Claremont symposium on applied social psychology. The social psychology of health* (pp. 31–67). Thousand Oaks, CA: Sage Publications, Inc.
- Dalsky, D., & Landis, D. (2013). Cross-cultural training. In K. D. Keith (Ed.), *The encyclopedia of cross-cultural psychology*. Hoboken, NJ: John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118339893.wbecp115>
- Fan, X. (2003). Power of latent growth modeling for detecting group differences in linear growth trajectory parameters. *Structural Equation Modeling*, 10(3), 380–400. [https://doi.org/10.1207/S15328007SEM1003\\_3](https://doi.org/10.1207/S15328007SEM1003_3)
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\*power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Hoffman, E., & Verdooren, A. (2018). *Diversity competence. Cultures don't meet, people do*. Bussum: Coutinho.
- Hofhuis, J., Van der Zee, K. I., & Otten, S. (2015). Measuring employee perception on the effects of cultural diversity at work: Development of the benefits and threats of diversity scale. *Quality & Quantity*, 49(1), 177–201. <https://doi.org/10.1007/s11135-013-9981-7>
- Horverak, J. G., Sandal, G. M., Bye, H. H., & Pallesen, S. (2013). Managers' selection preferences: The role of prejudice and multicultural personality traits in the assessment of native and immigrant job candidates. *European Review of Applied Psychology*, 63(5), 267–275. <https://doi.org/10.1016/j.erap.2013.07.003>
- Huang, T., Chi, S., & Lawler, J. J. (2005). The relationship between expatriates' personality traits and their adjustment to international assignments. *The International Journal of Human Resource Management*, 16(9), 1656–1670. <https://doi.org/10.1080/09585190500239325>
- Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., & Stone, A. A. (2004). A survey method for characterizing daily life experience: The day reconstruction method. *Science*, 306(5702), 1776–1780. <https://doi.org/10.1126/science.1103572>
- Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. In R. J. Sternberg & L. F. Zhang (Eds.), *Perspectives on cognitive, learning, and thinking styles* (pp. 227–247). Mahwah, NJ: Lawrence Erlbaum.
- Luijters, K., Van der Zee, K. I., & Otten, S. (2006). Acculturation strategies among ethnic minority workers and the role of intercultural personality traits. *Group Processes & Intergroup Relations*, 9(4), 561–575. <https://doi.org/10.1177/1368430206067554>
- Matsumoto, D., & Hwang, H. C. (2013). Assessing cross-cultural competence: A review of available tests. *Journal of Cross-Cultural Psychology*, 44(6), 849–873. <https://doi.org/10.1177/0022022113492891>
- Muthén, L. K., & Muthén, B. O. (2015). *Mplus User's Guide* (Seventh ed.). Los Angeles, CA: Muthén & Muthén.
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39–52. <https://doi.org/10.1080/00913367.1990.10673191>
- Ponterotto, J. G. (2010). Multicultural personality: An evolving theory of optimal functioning in culturally heterogeneous societies. *The Counseling Psychologist*, 38(5), 714–758. <https://doi.org/10.1177/0011000009359203>
- Ramirez, M. (1999). *Multicultural psychotherapy: An approach to individual and cultural differences*. Needham Heights, MA: Allyn & Bacon.
- Tadmor, C. T., Hong, Y., Chao, M. M., Wiruchnipawan, F., & Wang, W. (2012). Multicultural experiences reduce intergroup bias through epistemic unfreezing. *Journal of Personality and Social Psychology*, 103(5), 750–772. <https://doi.org/10.1037/a0029719>

- Thiagarajan, S., & Steinwachs, B. (1990). *Bangka: A simulation game on cultural clashes*. Yarmouth, ME: Intercultural Press.
- Ushida, Y., Hattori, K., & Takdama, K. (2010). Modeling collective adaptive agent design and its analysis in bangka game. *Journal of Economic Interaction and Coordination*, *5*(2), 137–154. <https://doi.org/10.1007/s11403-010-0070-x>
- Van der Zee, K. I., & Van Oudenhoven, J. P. L. M. (2013). Culture shock or challenge? The role of personality as a determinant of intercultural competence. *Journal of Cross-Cultural Psychology*, *44*(6), 928–940. <https://doi.org/10.1177/0022022113493138>
- Van der Zee, K. I., & Hofhuis, J. (2018). Conflict management styles across cultures. In Y. Y. Kim (Ed.), *The international encyclopedia of intercultural communication*. Hoboken, NJ: John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118783665.ieicc0242>
- Van der Zee, K. I., Van Oudenhoven, J. P. L. M., Ponterotto, J. G., & Fietzer, A. W. (2013). Multicultural personality questionnaire: Development of a short form. *Journal of Personality Assessment*, *95*(1), 118–124. <https://doi.org/10.1080/00223891.2012.718302>
- Van der Zee, K. I., & Van Oudenhoven, J. P. (2001). The multicultural personality questionnaire: Reliability and validity of self- and other ratings of multicultural effectiveness. *Journal of Research in Personality*, *35*(3), 278–288. <https://doi.org/10.1006/jrpe.2001.2320>
- Van Niejenhuis, C., Otten, S., & Flache, A. (2018). Sojourners' second language learning and integration. The moderating effect of multicultural personality traits. *International Journal of Intercultural Relations*, *63*, 68–79. <https://doi.org/10.1016/j.ijintrel.2018.01.001>
- Van Oudenhoven, J. P. L. M., Mol, S., & Van der Zee, K. I. (2003). Study of the adjustment of western expatriates in Taiwan ROC with the multicultural personality questionnaire. *Asian Journal of Social Psychology*, *6*(2), 159–170. <https://doi.org/10.1111/1467-839X.t01-1-00018>
- Ward, C., Leong, C., & Low, M. (2004). Personality and sojourner adjustment: An exploration of the big five and the cultural fit proposition. *Journal of Cross-Cultural Psychology*, *35*(2), 137–151. <https://doi.org/10.1177/0022022103260719>
- Wilson, J., Ward, C., & Fischer, R. (2013). Beyond culture learning theory: What can personality tell us about cultural competence? *Journal of Cross-Cultural Psychology*, *44*(6), 900–927. <https://doi.org/10.1177/0022022113492889>
- Wöhrlé, J., Van Oudenhoven, J. P., Otten, S., & Van der Zee, K. I. (2015). Personality characteristics and workplace trust of majority and minority employees in The Netherlands. *European Journal of Work and Organizational Psychology*, *24*(2), 161–177. <https://doi.org/10.1080/1359432X.2014.891583>
- Yakunina, E. S., Weigold, I. K., Weigold, A., Hercegovac, S., & Elsayed, N. (2012). The multicultural personality: Does it predict international students' openness to diversity and adjustment? *International Journal of Intercultural Relations*, *36*(4), 533–540. <https://doi.org/10.1016/j.ijintrel.2011.12.008>