

# Trust, social participation, and depression among older adults in low- and middle-income countries

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## Background

Over 20% of older adults suffer from mental or neurological disorders such as dementia or depression.<sup>1</sup>

Researchers have shown that interpersonal trust and social participation, often combined in the name of social capital,<sup>2</sup> help promote or protect mental health in general.<sup>3</sup>

It is unclear, however, if different types of trust and social participation all benefit mental health of older adults.<sup>4</sup>

Moreover, fewer studies investigated the association between trust, participation, and mental health of older adults in low- and middle-income countries (LMIC), although 80% of the world's older adult will be living in LMIC by 2050.<sup>5</sup>

## Aim

This study thus examines if and how in-/out-group trust and social participation are associated with depression among older adults in LMICs.

Received support from family, community, and government and negative health behaviors such as smoking and drinking are further considered as potential moderators between trust, social participation, and depression.

**Table 1.** Logit regression of depression on trust, social participation, and received support among the older adults in China, Ghana, India, Mexico, Russian Federation, and South Africa.

	Model 1	Model 2
In-group trust	-.11** (.04)	-.16* (.06)
Out-group trust	.06** (.02)	.10** (.03)
Social participation	.31*** (.04)	.20** (.07)
Received support		
From family/kin	.03 (.03)	.03 (.03)
From community	.33*** (.04)	.20* (.09)
From government	-.14 (.16)	-.14 (.16)
Negative health behaviors	.19*** (.03)	.22*** (.04)
Interactions		
Out-group x Community support		.36*** (.06)
Participation x Negative behaviors		.21* (.10)
In-group x Participation x Support		-.20*** (.04)
In-group x Participation x Behaviors		.15*** (.04)
N	33,885	33,885
Pseudo R <sup>2</sup>	.21	.21

p < .05, \*\* p < .01, \*\*\* p < .001 (two-tailed tests)

a) Results based on 10 multiply-imputed data sets.

b) Sample weighted / Standard errors in parentheses.

c) Individual level controls and country dummies were controlled for but not shown for the parsimony.

d) Only significant interactions are shown

## Methodology

Data are from the World Health Organization (WHO)'s Study on Global Aging and Adult Health (SAGE) collected from 2007 to 2010. The target population is 33,885 older adults aged 50 or above in China, Ghana, India, Mexico, Russian Federation, and South Africa.

The logit regression is used with country fixed effects and country-clustered standard errors. Multiple imputations and sampling weights are employed to adjust for nonresponse and sampling bias.

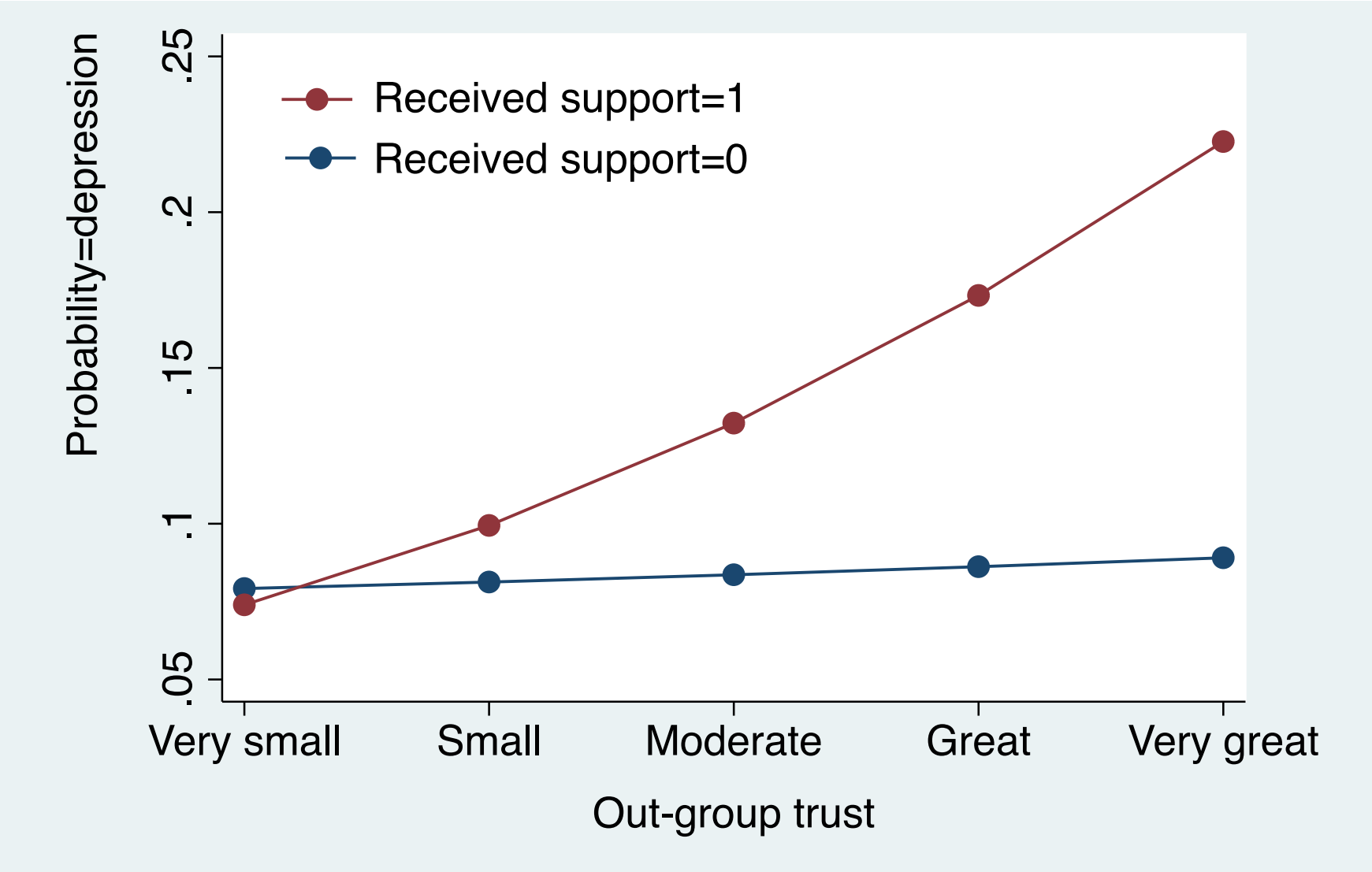
## Results

High out-group trust and frequent social participation are associated with *increased* odds of reporting depression whereas in-group trust reports an inverse association (Table 1 Model 1).

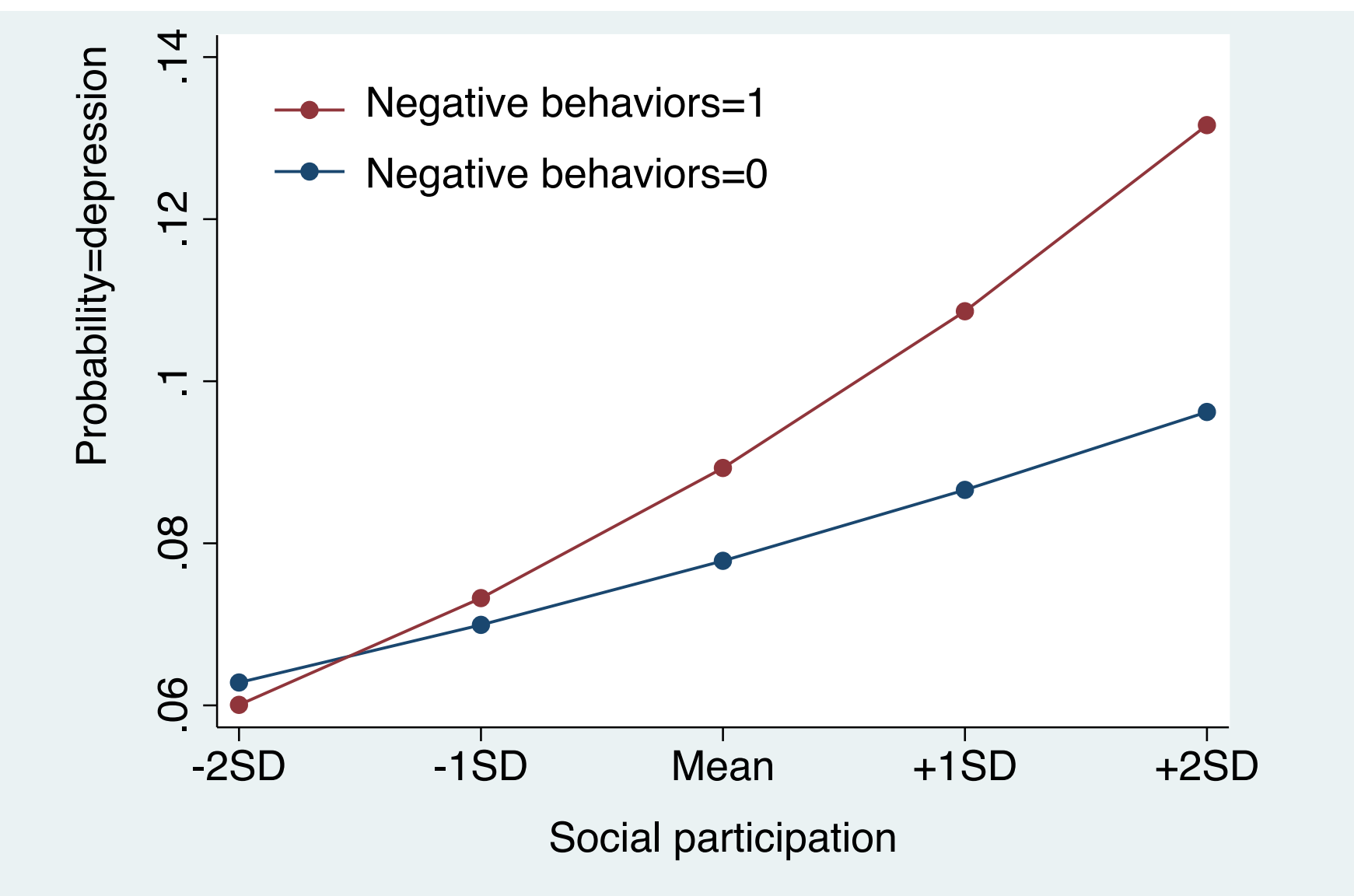
Interaction terms in Model 2 show that

1. out-group trust is positively associated with depression only when respondents' household received support from community (Figure 1), and
2. the positive association between social participation and depression becomes stronger when respondents smoke or drink regularly (Figure 2).
3. In-group trust on the other hand protects older adults against depression specifically when they receive support from community and frequently participate in social activities (Figure 3).
4. In-group trust however failed to provide a buffer against depression if older adults become active participants and smokers/drinkers at the same time (Figure 4).

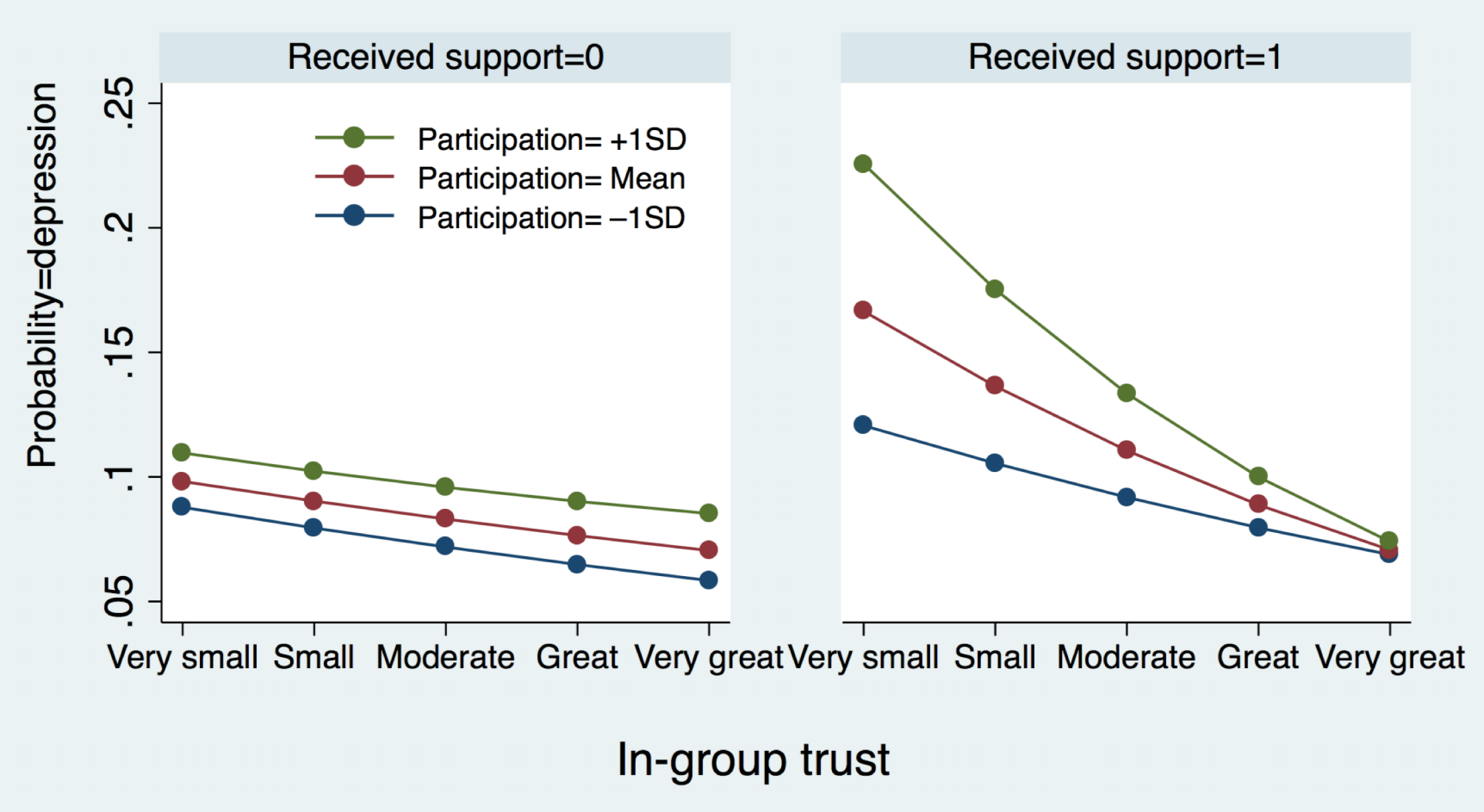
**Figure 1.** Interaction between out-group trust and community received support.



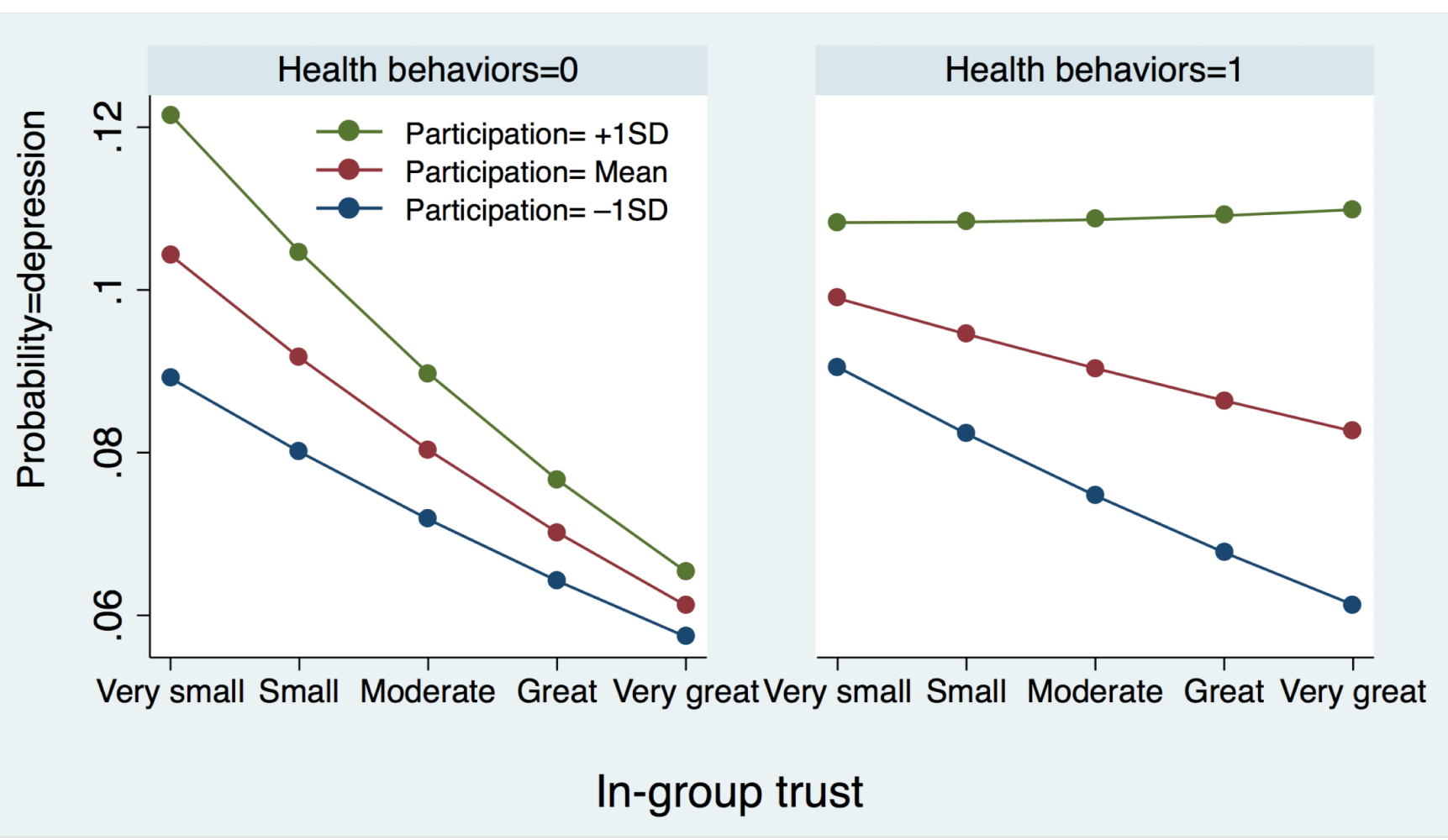
**Figure 2.** Interaction between social participation and negative health behaviors.



**Figure 3.** Three-way interaction between in-group trust, social participation and Community received support.



**Figure 4.** Three-way interaction between in-group trust, social participation and negative health behaviors.



## Conclusion

It is well-established that trust and social participation are salutary for mental health. It is less studied, however, whether in-/out-group trust and social participation unequivocally benefit mental health of the older adults. It also remains questionable if findings from the developed societies can be directly applicable to older adults in underdeveloped countries.

By using pooled data from the World Health Organization (WHO)'s Study on Global Aging and Adult Health (SAGE), this study show that out-group trust and social participation are related to the increased odds of reporting depression whereas in-group trust helps protect against depression in six LMICs – China, Ghana, India, Mexico, Russian Federation, and South Africa.

Interaction terms further reveal that 1) out-group trusters are more likely to suffer from depression than non-trusters only when they receive social support from community. In addition, 2) negative health behaviors such as smoking or drinking is likely to reinforce the depression-exacerbating tendency of social participation. A high level of in-group trust, in contrast, generally helps protect older adults against depression unless they frequently participant social activities while smoking or drinking.

Theoretically, findings from this study verify the social contagion of unhealthy behavior,<sup>6</sup> and the possible detrimental effect of out-group trust on depression in LMICs.<sup>4</sup>

Practically, this study may aid in designing more tailored and context-specific intervention for promoting mental health of older adults in LMICs.

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