

INTERPLAY BETWEEN MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY AND DEPRESSION: LONGITUDINAL DYADIC RESEARCH IN THE CONTEXT OF CHRONIC ILLNESS

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INTRODUCTION

- Physical activity (PA) is recommended for boosting mental health and well-being as well as for preventing the development of depression.
- Negative emotions such as depressive symptoms are considered to form key mechanisms responsible for maintenance of PA.
- Theories of PA engagement agree that PA is related to depression, that may constitute either antecedents or consequences of PA engagement.
- The order in which depression and moderate-to vigorous physical activity (MVPA) may operate in patient-partner dyads has not been thoroughly examined.



HYPOTHESES

- Patients' MVPA at T1 would explain patients' and partners' depression at T2.
- Patients' depression at T1 would predict patients' and partners' MVPA at T2.
- Partners' MVPA at T1 would explain patients' and partners' depression at T2.
- Partners' depression at T1 would predict patients' and partners' MVPA at T2.



METHODS

The design of the study was longitudinal:



TIME 1 (T1): 238 dyads patient-partner
 TIME 2 (T2): 176 dyads patient-partner

Measures (at T1 and T2):

- Physical activity** → International Physical Activity Questionnaire (IPQ; Booth, 2000)
- Depression symptoms** → Patient Health Questionnaire-9 (PHQ-9; Kroenke, Spitzer, & Williams, 1999)



RESULTS

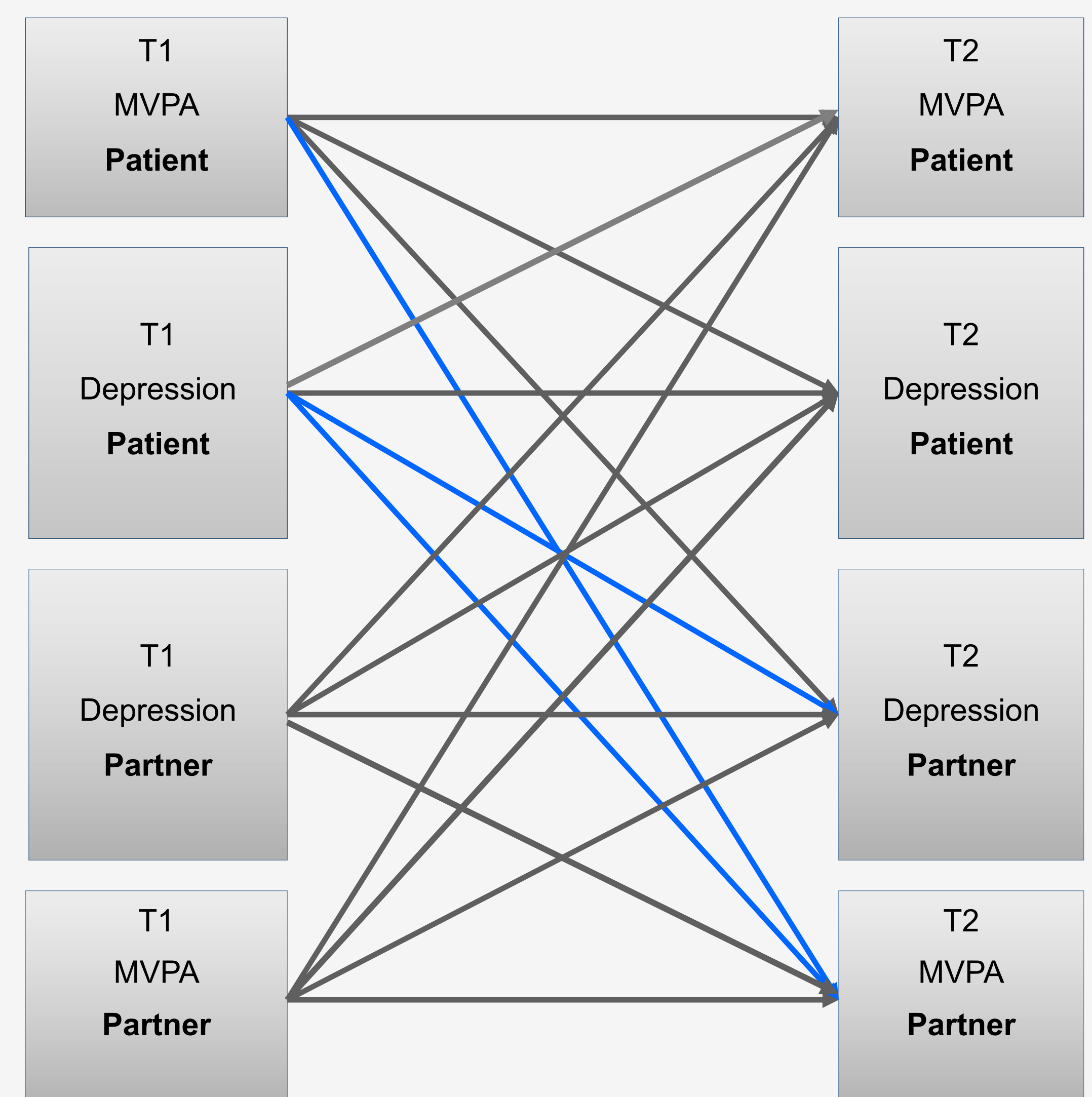
DYADS	Participants	Age	Mean age
N = 238	Patients (n = 238)	18-90	M = 47.03; SD = 16.66
	Partners (n = 238)	18-84	M = 45.47; SD = 16.18

Most frequently, patients were diagnosed with a cardiovascular diseases (27%) or diabetes (11%)

Relationship between depression and moderate-to-vigorous physical activity (MVPA) in patient-partner dyads

MODEL DATA FIT: $\chi^2(31) = 86.75, p < .001; \chi^2/df = 2.80; GFI = .942; NFI = .899; TLI = .850; CFI = .930; RMSEA = .087$ (90% CI: .066; .109)

Variables	b	SE	p
MVPA in patients (T1) → MVPA in partners (T2)	-.019	0.06	<.001
Depression in patients (T1) → Depression in partners (T2)	0.08	0.04	.046
Depression in patients (T1) → MVPA in partners (T2)	-3.32	0.88	<.001



Within dyads, the variation in individual's variable is shared with the variation of the other member of dyad (Peugh, DiLillo, & Panuzio, 2013). Therefore, all variables measured at T1 were assumed to covary, as well as all variables measured at T2 were assumed to covary. For clarity, Figure 1 does not display assumed covariances between T1 variables, or covariances between T2 residuals. Blue lines represent path coefficients which were significant ($p < .05$) in the total sample.

CONCLUSIONS

- This study provided evidence for the order of associations between depression and MVPA in a dyadic context: patients' depression predicts partners' depression and partners' MVPA.
- Patients' depression** (T1) predicted a higher level of **partners' depression** (T2).
- Patients' MVPA and depression** (T1) predicted a lower level of **partners' MVPA** (T2).
- The results may indicate that interventions aiming at MVPA change in patients and their partners should focus on MVPA and depression symptoms of patients.
- Accounting for **the role of depression** may increase the efficiency of MVPA-promoting interventions for patients with chronic diseases and for their partners.

