Irish Journal of Psychological Medicine (2025), 1–8
doi:10.1017/ipm.2025.12

CAMBRIDGE UNIVERSITY PRESS

Corrigendum

A network analysis of depressive symptoms in adults with and without diabetes: findings from the Irish Longitudinal Study on Ageing – CORRIGENDUM

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DOI: https://doi.org/10.1017/ipm.2024.10, Published by Cambridge University Press, 3 May 2024.

Keywords: Cohort study; diabetes; depression; network analysis

The article "A network analysis of depressive symptoms in adults with and without diabetes: findings from the Irish longitudinal study on ageing" has been corrected to rectify a coding error in the data of a follow-up sample measured in the study, which had little impact on the main conclusions. This error was swiftly and transparently brought to the attention of the editorial team, who agreed that this corrigendum was appppropriate. Due to the fact that the follow-up sample was altered, the error necessitated the correction of data and numerical values presented in the article across the Method, Results, and Discussion sections of the article, which are outlined below.

The main corrections to the article include:

- Sample size for wave 4 cohort.
- Statistical values in results (in text and tables) relating to wave 4 cohort (though interpretation of results remains largely the same).
- The main difference in this corrected paper is that the fourth symptom highest in node strength is no longer consistent across all networks ('couldn't get going'). Similarly, 'not feeling happy' is no longer consistently lowest in node strength across all networks.

Importantly, the main conclusions remain around the top three symptom nodes for people with and without diabetes, that sleep is still consistently the lowest node in strength across all networks, that networks become more strongly connected over time for people with diabetes but not people without, and that specific symptom relationships, namely, between 'felt lonely' and 'couldn't get going' and between 'not enjoying life' and 'sad', were significantly stronger for people with diabetes than for those without."

Detailed descriptions of where the above corrections affect the original article including updated tables are listed below.

Abstract:

- Wave 4 sample corrected to: n = 363 with diabetes and n = 4,829 without diabetes.
- "Couldn't get going" no longer amongst the most central nodes in all networks.
- Reference to sample at wave 4 being predominately people with newly diagnosed diabetes incorrect.

Methods:

The sample description in the methods section is updated for the wave 4 sample.

- Wave 4 sample corrected to: n = 363 with diabetes and n = 4,829 without diabetes.
- Description of changes between wave 1 and wave 4 corrected as per table below.

Original	Corrected
Between Wave 1 and Wave 4, there were n = 1,010 new cases of diabetes. Due to drop-out and having missing data on depression or diabetes status, n = 498 people with diabetes present in our sample at Wave 1 are not present at Wave 4. As there are five to seven years between data collection at Wave 1 and Wave 4, the sample with diabetes at Wave 4 is predominately represented by people with relatively newly diagnosed diabetes	As information on incident diabetes is combined with other conditions to create ICD-10 group for endocrine, nutritional and metabolic diseases in the TILDA public use data file at Wave 4, it was not possible to determine the number of participants with incident diabetes at Wave 4. Therefore, baseline diabetes is used to determine diabetes at Wave 1 and Wave 4. To ensure people with incident diabetes are not included in our Wave 4 sample without diabetes, n = 492 individuals with endocrine, nutritional and metabolic diseases were removed from the sample.

Cite this article: Byrne B, McInerney A, and Deschênes SS. A network analysis of depressive symptoms in adults with and without diabetes: findings from the Irish Longitudinal Study on Ageing – CORRIGENDUM. *Irish Journal of Psychological Medicine* https://doi.org/10.1017/ipm.2025.12

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Results:

Four in text corrections to the results are made to statistics regarding the wave 4 cohort.

Corrected information	Original	Corrected
Item informativeness statistics for the wave 4 cohort.	Wave 4 people without diabetes MSD = 0.43 ± 0.73; and Wave 4 people without diabetes MSD = 0.4 ± 0.7).	Wave 4 people with diabetes MSD = 0.49 ± 0.79; and Wave 4 people without diabetes MSD = 0.39 ± 0.7).
Non-zero edge statistics for the sample with diabetes at wave 4.	and 86% (24/28) non-zero edges.	and 79% (22/28) non-zero edges
Network stability statistics for the sample with diabetes for the wave 4 cohort.	Node strength (CS[cor = 0.7] = 0.59) and expected influence (CS[cor = 0.7] = 0.75) were above the cut-off to be considered stable (Fig. 3).	Node strength (CS[cor = 0.7] = 0.13) was below and expected influence (CS[cor = 0.7] = 0.56) was above the cut-off to be considered stable (Fig. 3).
Network comparison test global strength statistic for wave 4 cohort.	Wave 4 networks were not different between people with and without diabetes in terms of global strength (S = 0.01, p = .8) and edge weights (M = 0.12, p = .01).	The Wave 4 networks were not different between people with and without diabetes in terms of global strength (S = 0.01, p = .51) and edge weights (M = 0.12, p = .88).

Discussion

- References to "couldn't get going" as one of the most central nodes in all networks are incorrect. Three symptoms had consistently high node strength in all networks (as opposed to four in the original article).
- The symptom of "not feeling happy" no longer amongst the symptoms lowest in strength and expected influence in all networks.
- The following section in the discussion is no longer relevant as it is in regard to the sample at wave 4 being predominately people with newly diagnosed diabetes.

"Those with diabetes at Wave 4 were predominately (87.74%) people with relatively new (within the last 5–7 years) diagnoses of diabetes. This is in line with recent research by Wan et al. (Reference Wan, Feng, Ma, Ma, Wang, Huang, Zhang, Jing, Yang and Yu 2022), which found a statistically significant increase in depressive symptom connectivity in the 2 years following diagnosis. In contrast, Airaksinen et al. (Reference Airaksinen, Gluschkoff, Kivimäki and Jokela 2020) found the connectivity of depressive symptoms remained unchanged before and after diagnosis (Airaksinen et al., Reference Airaksinen, Gluschkoff, Kivimäki and Jokela 2020). However, Airaksinen et al. (Reference Airaksinen, Gluschkoff, Kivimäki and Jokela2020) used a binary measure of depressive symptoms, which may have impacted the sensitivity of their findings."

Tables and Figures

Table 1 and 2 with updated statistics (in relation to wave 4 only).

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Table 1. Descriptive Statistics for the Sample

	Those with diabetes at Wave 1 ($n = 639$)	Those without diabetes at Wave 1 ($n = 7,837$)	Those with diabetes at Wave 4 ($n = 363$)	Those without diabetes at Wave 4 ($n = 4829$)
Age Group, *n* (%)				
<50	7 (1.1)	311 (4.1)	0 (0)	0 (0)
50-64	260 (40.7)	4393 (56.1)	92 (25.3)	1968 (40.8)
65-74	227 (35.5)	1923 (24.5)	150 (41.3)	1711 (35.4)
75+	143 (22.4)	1190 (15.2)	121 (33.3)	1150 (23.8)
Missing	2 (.3)	9 (.1)	0 (0)	0 (0)
Age, mean ± SD	66.4 ± 8.933	62.67 ± 9.384	70.88 ± 8.149	67.84 ± 8.566
Sex, *n* (%)				
Male	369 (57.7)	3405 (43.4)	207 (57)	2108 (43.7)
Female	270 (42.3)	4432 (56.6)	156 (43)	2721 (56.3)
Education, *n* (%)				
Primary/None	261 (40.8)	2246 (28.7)	118 (32.8)	1097 (22.8)
Secondary	236 (37)	2187 (40.7)	143 (39.4)	2022 (41.9)
Tertiary	142 (22.2)	2401 (30.6)	100 (27.6)	1704 (35.2)
Don't know	0 (0)	3 (.0)	1 (.3)	6 (.1)
Do you currently smoke?				
Yes	111 (17.4)	1446 (18.5)	63 (17.4)	770 (15.9)
No	528 (82.6)	6390 (81.5)	300 (82.6)	4059 (84.1)
Missing	0 (0)	1 (.0)	0 (0)	0 (0)
Physical Activity Level				
Low	278 (43.5)	2388 (30.5)	139 (38.3)	1360 (28.2)
Moderate	206 (32.2)	2686 (34.3)	119 (32.8)	1656 (34.3)
High	148 (23.2)	2690 (34.3)	103 (28.4)	1774 (36.7)
Missing	7 (1.1)	73 (.9)	2 (.6)	39 (.8)
Body Mass Index				
0-24.99	35 (5.5)	1331 (17)	72 (19.8)	1598 (33.1)
25-29.99	147 (23)	2421 (30.9)	134 (36.9)	2015 (41.7)
30-39.99	212 (33.2)	1714 (21.9)	126 (34.7)	936 (19.4)
40+	36 (5.6)	122 (1.6)	15 (4.1)	55 (1.1)
Missing	209 (32.7)	2249 (28.7)	16 (4.4)	224 (4.6)
Marital status				
Married/cohabiting	428 (67)	5526 (70.5)		
Never married	58 (9.1)	730 (9.3)		
Separated/divorced	38 (5.9)	511 (6.5)		
Widowed	115 (18)	1070 (13.7)		
Hypertension				
Not Hypertensive	222 (34.7)	3322 (42.4)		
Hypertensive	202 (31.6)	2350 (30)		
Missing	215 (33.6)	2165 (27.6)		
Alcohol Consumption				
Heavy	135 (21.1)	1640 (20.9)		
Light/moderate	155 (24.3)	36.2 (2838)		
Non-drinker	191 (29.9)	1640 (20.9)		
Missing	158 (24.7)	1732 (22.1)		

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Table 2. Mean scores on the Center for Epidemiological Studies Depression 8-item (CES-D-8) Scale for each item. Scores ranged from zero to three

	Those with diabetes: Wave 1	Those without diabetes: Wave 1	Those with diabetes: Wave 4	Those without diabetes: Wave 4
	mean (± SD)	*mean* (± SD)	*mean* (± SD)	*mean* (± SD)
1. I felt depressed.	.32 (.69)	.25 (.6)	.33 (.69)	.23 (.56)
2. I felt that everything I did was an effort.	.42 (.79)	.29 (.66)	.48 (.88)	.29 (.62)
3. My sleep was restless.	.74 (1)	.65 (.93)	.9 (1.01)	.73 (.94)
4. I was happy.	.53 (.88)	.47 (.82)	.44 (.72)	.44 (.72)
5. I felt lonely.	.32 (.68)	.28 (.65)	.38 (.72)	.29 (.65)
6. I enjoyed life.	.44 (.81)	.39 (.78)	.45 (.75)	.4 (.71)
7. I felt sad.	.4 (.71)	.34 (.65)	.49 (.77)	.41 (.7)
8. I could not get going.	.36 (.7)	.26 (.6)	.46 (.77)	.33 (.64)

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Figure 1 updated for wave 4 cohort (bottom row). Connections are fundamentally the same as in the original paper. End of caption edited in reference to nodes highest in strength.

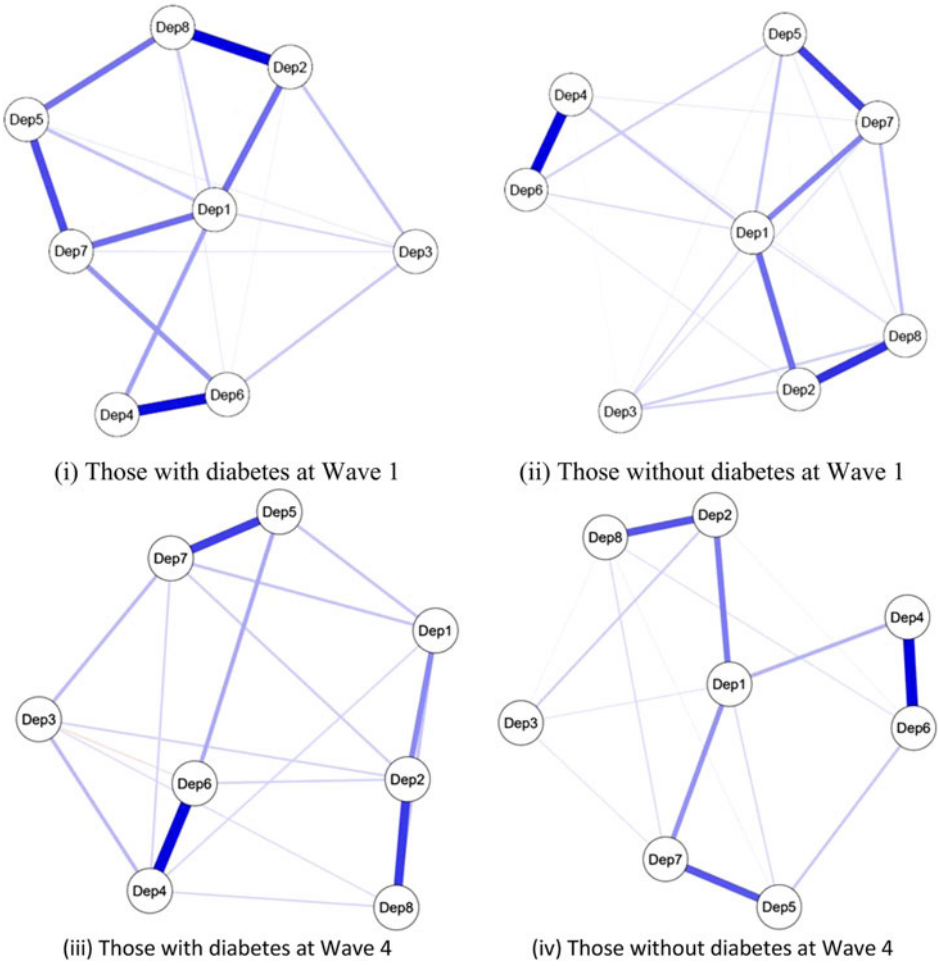

Figure 1. Network of depressive symptoms for people with (i) and without (ii) diabetes at wave 1 and with (iii) and without (iv) diabetes at wave 4. Line thickness and colour denote the strength and direction, respectively, of polychoric correlations between symptoms. Blue lines indicate positive correlations, and red indicate negative. The thicker the line, the stronger the correlation between two symptoms. Dep1 indicates I felt depressed; Dep2, I felt that everything I did was an effort; Dep3, my sleep was restless; Dep4, I was happy; Dep5, I felt lonely; Dep6, I enjoyed life; Dep7, I felt sad; Dep8, I could not get going. For those with diabetes at wave 1 (i), the node highest in node strength was depressed (Dep1), followed by everything's an effort (Dep2) and couldn't get going (Dep8). The order of the three nodes highest in expected influence was depressed (Dep1), couldn't get going (Dep8) and everything's an effort (Dep2). For those without diabetes at wave 1 (ii), the nodes highest in node strength were: depressed (Dep1), everything's an effort (Dep2) and sad (Dep7). The nodes highest in expected influence were: depressed (Dep1), everything's an effort (Dep2), and sad (Dep7). For those with diabetes at wave 4 (iii), the nodes highest in strength were everything's an effort (Dep2), I was happy (Dep4), sad (Dep7), not enjoying life (Dep6). The nodes highest in expected influence were everything's an effort (Dep2), I was happy (Dep4) and sad (Dep 7). For those without diabetes at wave 4 (iv), the nodes highest in node strength were depressed (Dep1), not enjoying life (Dep6), and everything's an effort (Dep2). The nodes highest in expected influence were depressed (Dep1), sad (Dep7), and not enjoying life (Dep6).

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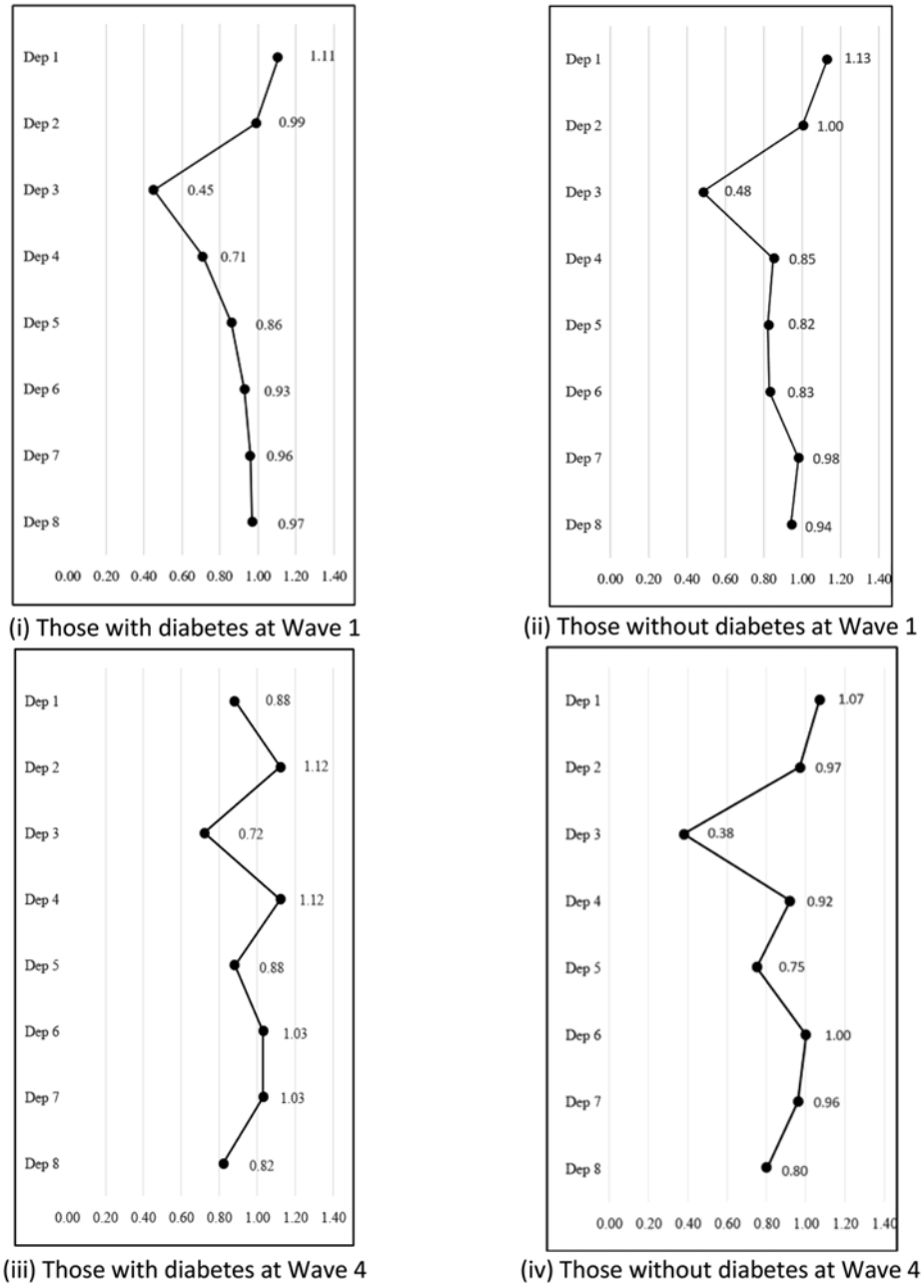

Figure 2. Updated for wave 4 cohort (bottom row). Connections are fundamentally the same as in the original paper.

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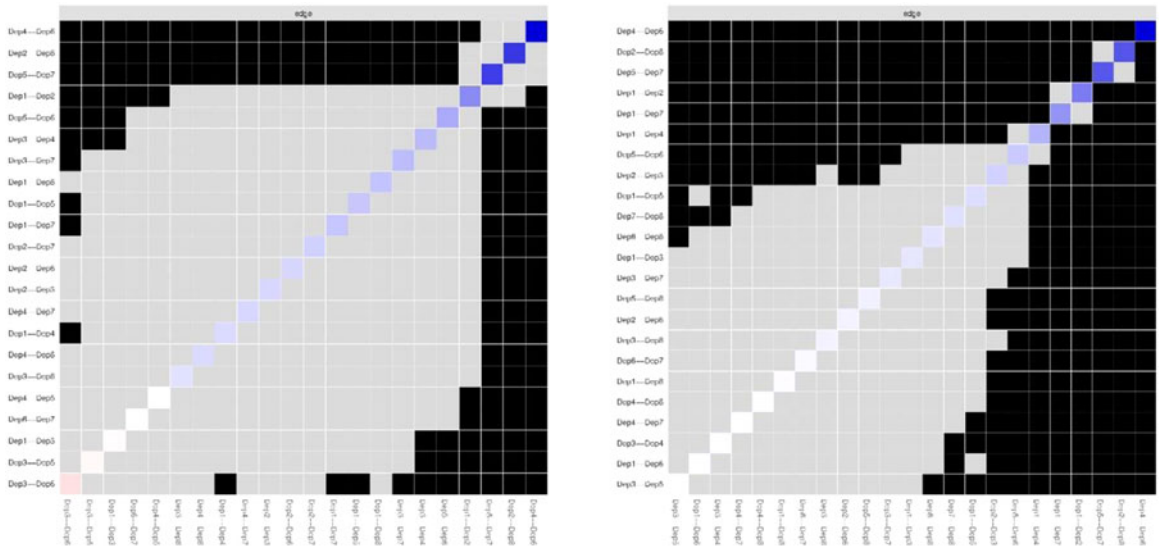

Figure 3. Updated for wave 4 cohort (bottom row). Connections are fundamentally the same as in the original paper.

Updated statistics for the supplementary tables based on wave 4 cohort data.

Supplementary 3

Wave 4 polychoric correlations for those with diabetes.

	Dep1	Dep2	Dep3	Dep4	Dep5	Dep6	Dep7	Dep8
Dep1	1	.69	.32	.57	.58	.49	.61	.61
Dep2		1	.43	.57	.52	.55	.6	.74
Dep3			1	.43	.29	.28	.44	.41
Dep4				1	.57	.79	.59	.54
Dep5					1	.6	.72	.45
Dep6						1	.56	.47
Dep7							1	.51
Dep8								1

Notes. Dep1 indicates I felt depressed; Dep2, I felt that everything I did was an effort; Dep3, my sleep was restless; Dep4, I was happy; Dep5, I felt lonely; Dep6, I enjoyed life; Dep7, I felt sad; Dep8, I could not get going.

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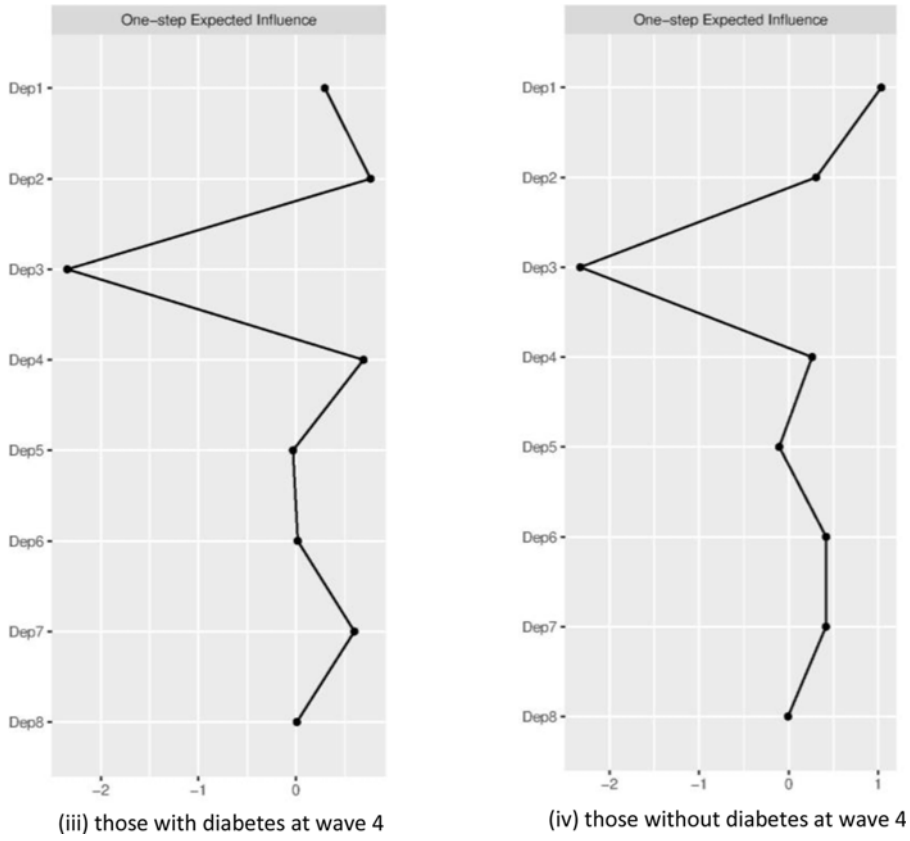
Supplementary 4

Wave 4 polychoric correlations for those without diabetes.

	Dep1	Dep2	Dep3	Dep4	Dep5	Dep6	Dep7	Dep8
Dep1	1	.65	.37	.6	.56	.56	.64	.54
Dep2		1	.38	.46	.44	.49	.49	.66
Dep3			1	.29	.28	.27	.34	.33
Dep4				1	.46	.79	.49	.46
Dep5					1	.52	.67	.44
Dep6						1	.51	.48
Dep7							1	.49
Dep8								1

Notes. Dep1 indicates I felt depressed; Dep2, I felt that everything I did was an effort; Dep3, my sleep was restless; Dep4, I was happy; Dep5, I felt lonely; Dep6, I enjoyed life; Dep7, I felt sad; Dep8, I could not get going.

Supplementary figure 1 updated for wave 4 cohort (bottom row). Connections are fundamentally the same as in the original paper.



(iii) those with diabetes at wave 4

(iv) those without diabetes at wave 4

Reference

Byrne B, McInerney AM, Deschênes SS (2024). A network analysis of depressive symptoms in adults with and without diabetes: findings from the Irish longitudinal study on ageing. *Irish Journal of Psychological Medicine* https://doi.org/10.1017/ipm.2024.10

https://doi.org/10.1017/ipm.2025.12 Published online by Cambridge University Press