

LAMPIRAN

Lampiran 1 Kuisioner Penelitian

A. Decent work

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
Kondisi Kerja yang Aman						
1	Saya merasa aman secara emosional saat berinteraksi dengan orang di tempat kerja.					
2	Di tempat kerja, saya merasa aman dari kekerasan verbal maupun non-verbal dalam bentuk apa pun.					
3	Saya merasa aman secara fisik saat berinteraksi dengan orang di tempat kerja.					
Layanan Kesehatan						
4	Saya mendapatkan manfaat layanan kesehatan yang baik dari pekerjaan saya.					
5	Saya mendapatkan rencana layanan kesehatan yang baik di tempat kerja.					
6	Tempat saya bekerja menyediakan opsi layanan kesehatan yang layak.					
Kompensasi						
7	Saya tidak digaji dengan layak untuk pekerjaan saya. > R					
8	Saya merasa tidak digaji cukup sesuai dengan kualifikasi dan pengalaman saya. > R					
9	Saya diberi penghargaan yang memadai untuk pekerjaan saya.					
Waktu dan Istirahat						

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
10	Saya tidak memiliki cukup waktu untuk aktivitas di luar pekerjaan. > R					
11	Saya tidak memiliki waktu untuk beristirahat cukup selama seminggu waktu kerja. > R					
12	Saya memiliki waktu luang selama seminggu waktu kerja.					
Nilai Organisasi						
13	Nilai-nilai perusahaan di tempat saya bekerja sesuai dengan nilai-nilai dalam keluarga saya.					
14	Nilai-nilai perusahaan tempat saya bekerja selaras dengan nilai-nilai keluarga saya.					
15	Nilai-nilai perusahaan tempat saya bekerja sesuai dengan nilai-nilai dalam komunitas / pergaulan saya.					

B. Work engagement

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
16	Di tempat kerja, saya merasa penuh semangat.					
17	Saya bersemangat dan merasa mampu untuk bekerja atau menuju tempat kerja.					
18	Saya antusias terhadap pekerjaan saya.					
19	Pekerjaan saya menginspirasi saya.					
20	Saat bangun di pagi hari, saya merasa ingin segera bekerja.					

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
21	Saya merasa senang saat bekerja dengan intens.					
22	Saya bangga dengan pekerjaan saya.					
23	Saya tenggelam dalam pekerjaan saya.					
24	Saya larut/terbawa suasana dalam pekerjaan saat sedang bekerja.					

C. Innovative work behavior

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
25	ketika bekerja, saya mampu Menciptakan ide-ide baru untuk masalah yang sulit.					
26	ketika bekerja, saya mampu mencari metode kerja, teknik, atau alat baru.					
27	ketika bekerja, saya mampu Menghasilkan solusi orisinal untuk masalah.					
28	ketika bekerja, saya mampu menggerakkan dukungan untuk ide-ide inovatif.					
29	ketika bekerja, saya dapat memperoleh persetujuan atas ide-ide inovatif yang saya usulkan.					

No	Pertanyaan	Skala				
		STS (1)	TS (2)	N (3)	S (4)	SS (5)
30	ketika bekerja, saya mampu membuat pihak manajerial antusias terhadap ide-ide inovatif.yang saya usulkan					
31	ketika bekerja, saya mampu mengubah ide-ide inovatif menjadi aplikasi yang berguna.					
32	ketika bekerja, saya mampu memperkenalkan ide-ide inovatif ke dalam lingkungan kerja secara sistematis					
33	ketika bekerja, saya mampu mengevaluasi kegunaan dari ide-ide inovatif					

Lampiran 2 Kuisisioner Dalam Populix







Lampiran 3 Hasil Turnitin

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Lampiran 4 Data Responden

Summary		Coding								
No	Id	Gender	Age	Provinsi	Kota	SOS Grade	Job Status	Date	apakah anda merupakan ku	
1	6532763	Perempuan	28	DI Yogyakarta	Gamping Kidul	Middle	Bekerja penuh waktu	(16/25/06/2025	22.05ya	
2	6532765	Laki-Laki	30	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/25/06/2025	22.07ya	
3	6532766	Laki-Laki	26	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/25/06/2025	22.08ya	
4	6532767	Laki-Laki	23	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/25/06/2025	22.10ya	
5	6532768	Perempuan	30	DI Yogyakarta	Bantul	Lower	Bekerja penuh waktu	(16/25/06/2025	22.11ya	
6	6532773	Perempuan	25	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/25/06/2025	22.12ya	
7	6532875	Laki-Laki	30	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/25/06/2025	22.25ya	
8	6532884	Perempuan	30	DI Yogyakarta	Bantul	Upper	Bekerja penuh waktu	(16/25/06/2025	22.33ya	
9	6532889	Perempuan	25	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/25/06/2025	22.35ya	
10	6532892	Laki-Laki	25	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/25/06/2025	22.36ya	
11	6532893	Laki-Laki	32	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/25/06/2025	22.37ya	
12	6532896	Perempuan	31	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/25/06/2025	22.40ya	
13	6532898	Laki-Laki	27	DI Yogyakarta	Bantul	Lower	Bekerja penuh waktu	(16/25/06/2025	22.52ya	
14	6532902	Perempuan	26	DI Yogyakarta	Bantul	Lower	Bekerja penuh waktu	(16/25/06/2025	23.02ya	
15	6532910	Perempuan	33	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/25/06/2025	23.13ya	
16	6532911	Perempuan	24	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/25/06/2025	23.36ya	
17	6532913	Laki-Laki	32	DI Yogyakarta	Gamping Kidul	Middle	Bekerja penuh waktu	(16/25/06/2025	23.47ya	
18	6532923	Perempuan	21	DI Yogyakarta	Kulon Progo	Middle	Bekerja penuh waktu	(16/26/06/2025	00.27ya	
19	6532926	Perempuan	39	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/26/06/2025	00.28ya	
20	6532933	Laki-Laki	25	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/26/06/2025	00.39ya	
21	6532953	Perempuan	41	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	02.14ya	
22	6532961	Perempuan	23	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/26/06/2025	04.22ya	
23	6532972	Perempuan	24	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/26/06/2025	06.14ya	
24	6532974	Laki-Laki	32	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/26/06/2025	06.20ya	
25	6532978	Perempuan	41	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/26/06/2025	06.42ya	
26	6532984	Laki-Laki	31	DI Yogyakarta	Bantul	Upper	Bekerja penuh waktu	(16/26/06/2025	07.18ya	
27	6532987	Perempuan	22	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/26/06/2025	07.31ya	
28	6533002	Perempuan	28	DI Yogyakarta	Kulon Progo	Upper	Bekerja penuh waktu	(16/26/06/2025	08.46ya	
29	6533016	Perempuan	25	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	09.11ya	
30	6533030	Perempuan	38	DI Yogyakarta	Kulon Progo	Middle	Bekerja penuh waktu	(16/26/06/2025	09.53ya	
31	6533068	Laki-Laki	35	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	10.36ya	
32	6533074	Laki-Laki	28	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	11.04ya	
33	6533084	Laki-Laki	23	DI Yogyakarta	Bantul	Lower	Bekerja penuh waktu	(16/26/06/2025	11.25ya	
34	6533119	Laki-Laki	21	DI Yogyakarta	Kulon Progo	Lower	Bekerja penuh waktu	(16/26/06/2025	12.26ya	
35	6533128	Perempuan	29	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/26/06/2025	13.00ya	
36	6533134	Perempuan	19	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/26/06/2025	13.25ya	
37	6533141	Laki-Laki	30	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/26/06/2025	13.46ya	
38	6534362	Laki-Laki	28	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/26/06/2025	17.39ya	
39	6534732	Perempuan	38	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	19.12ya	
40	6534744	Laki-Laki	20	DI Yogyakarta	Kulon Progo	Middle	Bekerja penuh waktu	(16/26/06/2025	19.16ya	
41	6534784	Perempuan	30	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/26/06/2025	19.31ya	
42	6534814	Laki-Laki	25	DI Yogyakarta	Kulon Progo	Lower	Bekerja penuh waktu	(16/26/06/2025	19.38ya	
43	6534883	Perempuan	32	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/26/06/2025	19.39ya	
44	6535068	Perempuan	24	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/26/06/2025	20.46ya	
45	6535134	Laki-Laki	33	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/26/06/2025	22.32ya	
46	6535574	Perempuan	26	DI Yogyakarta	Yogyakarta	Lower	Bekerja penuh waktu	(16/27/06/2025	00.41ya	
47	6535680	Perempuan	23	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/27/06/2025	02.52ya	
48	6535751	Laki-Laki	24	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/27/06/2025	05.37ya	
49	6535865	Perempuan	32	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/27/06/2025	08.22ya	
50	6535875	Perempuan	29	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/27/06/2025	09.13ya	
51	6536106	Perempuan	33	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/27/06/2025	16.27ya	
52	6536413	Perempuan	27	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/27/06/2025	21.28ya	
53	6536508	Perempuan	30	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/27/06/2025	22.46ya	
54	6536687	Laki-Laki	27	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/28/06/2025	01.13ya	
55	6537607	Perempuan	33	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/28/06/2025	10.22ya	
56	6538004	Perempuan	23	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/28/06/2025	11.24ya	
57	6538798	Perempuan	19	DI Yogyakarta	Gamping Kidul	Lower	Bekerja penuh waktu	(16/29/06/2025	03.26ya	
58	6539667	Laki-Laki	28	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/30/06/2025	12.28ya	
59	6539888	Perempuan	18	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/30/06/2025	14.41ya	
60	6540242	Perempuan	27	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/30/06/2025	17.27ya	
61	6540252	Perempuan	28	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/30/06/2025	19.08ya	
62	6540476	Laki-Laki	19	DI Yogyakarta	Kulon Progo	Lower	Bekerja penuh waktu	(16/30/06/2025	20.09ya	
63	6540574	Laki-Laki	25	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/01/07/2025	03.02ya	
64	6541188	Laki-Laki	34	DI Yogyakarta	Gamping Kidul	Middle	Bekerja penuh waktu	(16/01/07/2025	16.34ya	
65	6541646	Laki-Laki	23	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/02/07/2025	00.31ya	
66	6542622	Perempuan	31	DI Yogyakarta	Bantul	Upper	Bekerja penuh waktu	(16/03/07/2025	02.56ya	
67	6542697	Laki-Laki	37	DI Yogyakarta	Bantul	Upper	Bekerja penuh waktu	(16/03/07/2025	07.18ya	
68	6543449	Perempuan	24	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/03/07/2025	13.34ya	
69	6545460	Perempuan	28	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/04/07/2025	08.40ya	
70	6547719	Laki-Laki	25	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/05/07/2025	02.01ya	
71	6551027	Perempuan	22	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/07/07/2025	14.48ya	
72	6556560	Perempuan	35	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/09/07/2025	18.08ya	
73	6556740	Perempuan	25	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/09/07/2025	19.54ya	
74	6556802	Perempuan	28	DI Yogyakarta	Bantul	Upper	Bekerja penuh waktu	(16/09/07/2025	20.04ya	
75	6558611	Perempuan	33	DI Yogyakarta	Bantul	Middle	Bekerja penuh waktu	(16/11/07/2025	00.51ya	
76	6561146	Laki-Laki	26	DI Yogyakarta	Sleman	Lower	Bekerja penuh waktu	(16/11/07/2025	23.33ya	
77	6562203	Laki-Laki	26	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/12/07/2025	08.31ya	
78	6562231	Perempuan	27	DI Yogyakarta	Sleman	Middle	Bekerja penuh waktu	(16/12/07/2025	08.51ya	
79	6563323	Perempuan	27	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/13/07/2025	08.18ya	
80	6563773	Perempuan	24	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/13/07/2025	13.40ya	
81	6563853	Laki-Laki	26	DI Yogyakarta	Yogyakarta	Upper	Bekerja penuh waktu	(16/13/07/2025	16.38ya	
82	6563902	Laki-Laki	31	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/13/07/2025	18.22ya	
83	6563959	Laki-Laki	31	DI Yogyakarta	Yogyakarta	Middle	Bekerja penuh waktu	(16/13/07/2025	21.06ya	
84	6564189	Perempuan	20	DI Yogyakarta	Gamping Kidul	Lower	Bekerja penuh waktu	(16/14/07/2025	00.05ya	
85	6564333	Laki-Laki	27	DI Yogyakarta	Sleman	Upper	Bekerja penuh waktu	(16/14/07/2025	13.48ya	

		Correlations									Innovative Work Behavior
		IWB 1	IWB 2	IWB 3	IWB 4	IWB 5	IWB 6	IWB 7	IWB 8	IWB 9	
IWB 1	Pearson Correlation	1	.611**	.599**	.463**	.483**	.531**	.587**	.437**	.455**	.745**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 2	Pearson Correlation	.611**	1	.449**	.355**	.487**	.282*	.337**	.350**	.374**	.601**
	Sig. (2-tailed)	.000		.000	.002	.000	.014	.003	.002	.001	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 3	Pearson Correlation	.599**	.449**	1	.539**	.412**	.537**	.550**	.368**	.399**	.700**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.001	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 4	Pearson Correlation	.463**	.355**	.539**	1	.643**	.673**	.701**	.548**	.599**	.800**
	Sig. (2-tailed)	.000	.002	.000		.000	.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 5	Pearson Correlation	.483**	.487**	.412**	.643**	1	.589**	.587**	.812**	.595**	.781**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 6	Pearson Correlation	.531**	.282*	.537**	.673**	.589**	1	.690**	.500**	.530**	.777**
	Sig. (2-tailed)	.000	.014	.000	.000	.000		.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 7	Pearson Correlation	.587**	.337**	.550**	.701**	.587**	.690**	1	.714**	.712**	.870**
	Sig. (2-tailed)	.000	.003	.000	.000	.000	.000		.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 8	Pearson Correlation	.437**	.350**	.368**	.548**	.812**	.500**	.714**	1	.780**	.787**
	Sig. (2-tailed)	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
IWB 9	Pearson Correlation	.455**	.374**	.399**	.599**	.595**	.530**	.712**	.780**	1	.802**
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75	75	75
Innovative Work Behavior	Pearson Correlation	.745**	.601**	.700**	.800**	.781**	.777**	.870**	.787**	.802**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	75	75	75	75	75	75	75	75	75	75

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	75	100.0
	Excluded ^a	0	.0
	Total	75	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.838	15

Scale: ALL VARIABLES**Case Processing Summary**

		N	%
Cases	Valid	75	100.0
	Excluded ^a	0	.0
	Total	75	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.885	9

Scale: ALL VARIABLES**Case Processing Summary**

		N	%
Cases	Valid	75	100.0
	Excluded ^a	0	.0
	Total	75	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.838	15

Frequencies

		Statistic														
		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008	VAR00009	VAR00010	VAR00011	VAR00012	VAR00013	VAR00014	VAR00015
Frequency		75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
Percentage		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean		4.28	4.21	4.11	4.52	4.28	4.52	4.28	4.16	4.12	4.52	4.50	4.50	4.50	4.50	4.50
Std. Deviation		1.827	1.910	1.885	1.841	1.719	1.788	1.718	1.710	1.710	1.881	1.580	1.552	1.573	1.558	1.544
Minimum		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Maximum		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Sum		321	316	308	339	321	339	321	312	310	339	338	338	338	338	338

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1.	Decent Work ^a		Enter

a. Dependent Variable: Work Engagement

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Sig. F Change	Durbin-Watson
						F Change	df1	df2			
1.	.649 ^a	.421	.413	4.213	.421	53.059	1	73		.000	2.139

a. Predictors: (Constant), Decent Work

b. Dependent Variable: Work Engagement

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1.	Regression	941.632	1	941.632	53.059	.000 ^a
	Residual	1295.514	73	17.747		
	Total	2237.147	74			

a. Dependent Variable: Work Engagement

b. Predictors: (Constant), Decent Work

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1.	(Constant)	10.851	3.817		2.791	.007					
	Decent Work	.444	.061	.649	7.284	.000	.649	.649	.649	1.000	1.000

a. Dependent Variable: Work Engagement



Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Work Engagement, Decent Work ^b		Enter

a. Dependent Variable: Innovative Work Behavior

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. F Change	Durbin-Watson
					R Square Change	F Change	df1	df2		
1	.725 ^a	.526	.513	3.822	.526	39.956	2	72	.000	1.998

a. Predictors: (Constant), Work Engagement, Decent Work

b. Dependent Variable: Innovative Work Behavior

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1167.302	2	583.651	39.956	.000 ^b
	Residual	1051.795	72	14.608		
	Total	2219.147	74			

a. Dependent Variable: Innovative Work Behavior

b. Predictors: (Constant), Work Engagement, Decent Work

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.545	3.643		2.620	.011					
	Decent Work	.038	.073	.057	.530	.598	.502	.062	.643	.579	1.727
	Work Engagement	.685	.106	.687	6.447	.000	.724	.605	.523	.579	1.727

a. Dependent Variable: Innovative Work Behavior



Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Work Engagement ^b	.	Enter

a. Dependent Variable: Innovative Work Behavior

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	.724 ^a	.524	.518	3.803	.524	80.423	1	73	.000	1.995

a. Predictors: (Constant), Work Engagement

b. Dependent Variable: Innovative Work Behavior

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1163.255	1	1163.255	80.423	.000 ^b
	Residual	1055.892	73	14.464		
	Total	2219.147	74			

a. Dependent Variable: Innovative Work Behavior

b. Predictors: (Constant), Work Engagement

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	10.542	3.105		3.395	.001					
	Work Engagement	.721	.080	.724	8.968	.000	.724	.724	.724	1.000	1.000

a. Dependent Variable: Innovative Work Behavior



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Decent work and innovative work behavior of academic staff in higher education institutions: the mediating role of work engagement and job self-efficacy

Rasha S. Hassan¹, Hala M. G. Amin¹ & Hebatallah Ghoneim¹

Decent work was proposed by International Labour Organization (ILO) as an institutional measure to address challenges faced by labor in the current competitive dynamic labor market. This study aims to investigate the impact of "decent work" dimensions on faculty members' Innovative Work Behaviour (IWB) in higher education institutes. The study also explores the possible role of work engagement in mediating this relationship. Moreover, the study aims to discover the role of job self-efficacy in mediating the relationship between decent work and work engagement. Using the SEM (Structural Equation Modelling) method, we test our model's hypotheses with data from 224 faculty members working in higher education institutes through the use of questionnaires. Results suggest that "decent work" was a predictor of IWB only through the full mediation of work engagement. Decent work was found to significantly impact job self-efficacy and work engagement. Furthermore, job self-efficacy was found to play an important role in promoting work engagement and acts as a mediating variable in the relationship between decent work and work engagement. Findings encourage education policymakers to implement new strategies and policies to promote higher levels of decent work for faculty members, with greater emphasis on work engagement, to enhance their IWB. This study is one of a few studies conducted in emerging economies that highlight "decent work" as an essential job resource, useful in enhancing work engagement and leading to higher IWB among faculty members in higher education institutions.

¹Faculty of Management Technology, German University in Cairo, Cairo, Egypt. [✉]email: rasha.saad@guc.edu.eg

engagement. However, our results did not support the impact of a decent work environment on academic staff innovative behavior.

The study's key implications should encourage education leaders to create new methods and regulations to promote higher levels of respectable work for faculty members, placing a stronger emphasis on work engagement to improve their IWB. The study is structured as follows: The literature review and proposed hypotheses are presented in the next section. The methods used for gathering data is covered in "Research Methodology". The findings are then revealed and discussed. We also explore consequences and offer some recommendations for further research in the conclusion, provided in the final section.

Theoretical background and hypotheses development

Decent work, concepts, and measurements. One of the key demands for humans to fulfill needs and wants is "paid work." The nature of work has changed dramatically over time, while the industrial revolution has raised aspects related to working conditions, abuse of children, and the union movement (Albertson et al., 2021); sustainable development has raised the need for a deeper concept, which is "Decent Work". Decent work was first introduced in 1999 by the International Labour Organization (ILO) as a combined agenda for job employment and its quality (Brill, 2021; Ghai, 2003; Rodgers, 2007). Decent work is set as a priority to ensure that growth and development are inclusively distributed among different groups in society (Rodgers, 2007). The ILO depends on decent work as a primary goal to make work conditions more decent and, respectively, ensure sustainable growth (Deranty and MacMillan, 2012).

Decent work is a multidimensional arrangement that aims to promote job opportunities for both men and women, offer social protection, human dignity, and fair wages, ensure a safe working environment, preserve workers' rights, and enhance work-life balance (European, 2023; Ghoneim, 2021; Zu, 2013). Decent work is about more than just being employed in a competitive labor market. It is also about having a meaningful job that assists workers in contributing to society, and organizations, gaining self-esteem, and developing and securing better welfare for the workers' families (Deranty and MacMillan, 2012). Decent work is a pathway to achieving social justice and the UN Declaration of Human Rights concerning the right to work (Blustein et al. 2016). ILO set four strategic objectives to ensure decent work, which are: "the promotion of rights at work; employment; social protection; and social dialog" (Somavia, 1999).

Lately, vast literature (Blustein et al., 2008; Blustein et al., 2016; Duffy et al., 2016; Duffy et al., 2017) has adopted the Psychological Work Theory (PWT) to define and conceptualize decent work on an individual level as an attempt to provide the microeconomic perspective of a better quality of work and well-being. While others (such as Atitsogbe et al. 2021; Buyukgoze-Kavas and Aytin, 2019; Colakoglu and Toygar, 2021; Fan et al., 2023; Ferreira et al., 2019; Kashyap et al., 2022; Kozan et al., 2019; Masdonati et al. 2022; Svicher et al., 2022; Vignoli et al., 2019) have used PWT empirically to examine and provide a better understanding of actual practices as well as determine the impact of decent work and casual relations with other organizational, economic, and social variables. PWT is an effort to fully comprehend an individual's behavior's source of life via the psychological study of working, including variables such as self-determination (Blustein et al., 2008). It is based on the fact that work is not only a survival avenue for humans but also a practice to create a social network and an instrument to extract self-interest as well as self-determination (Blustein et al., 2008). The concept of PWT builds on a broad definition of work that encompasses caregiving work performed outside of the workplace and recognizes the inter-link between

work and non-work. The theory also emphasizes the necessity of considering social, political, economic, and historical issues to comprehend work experiences (Hirschi, 2018). In short, PWT has integrated psychological perspectives into the criteria of the ILO's decent work and explains the result of marginalization on work quality (Ferreira et al., 2019).

PWT maps the five components required to ensure decent work that would be a pathway to a better quality of life. The five components are (Duffy et al., 2016; Duffy et al., 2017):

- (a) Physically and interpersonally safe working conditions: ILO recognizes occupational and health safety, from its very foundation, as an essential component of decent work to ensure fewer injuries and abuses at work. ILO has set measures and policies that would assist in preventing and controlling occupational dangers and risks that have evolved with continuous technological and economic changes. Working hazards do not only cost the health and lives of workers but also reduce productivity (Alli, 2008). Decent work refers to a fair, secure, and productive workplace that would require an environment in which workers feel physically and emotionally safe, experiencing no abuse (Kashyap et al., 2022);
- (b) Hours that allow for free time and adequate rest: long working hours hurt the well-being of any individual; they would lead to stress, obesity, burnout, heart disease, and in general physical and mental health deterioration (Ganster et al., 2018; Shields, 1999). Moreover, very long hours would hurt work-life balance (Anker et al., 2002), which is an important engine of women's empowerment and gender equality as part of achieving a decent work strategy (Khairy and Ghoneim, 2023; Ghoneim, 2021);
- (c) Organizational values that complement family and social values: are about the degree to which the work values align with that employee's family and community values (Duffy et al., 2017). Blustein et al. (2016) demonstrated that individuals find a harmonious atmosphere at work when organizational values are complemented by personal values;
- (d) Adequate compensation: one of the workers' rights is to receive adequate remuneration that covers their fundamental demands and maintains a respectable level of living. Along with income, it also includes incentives like paid time off, retirement benefits, and health insurance. While adequate pay varies depending on the local cost of living, it should always be sufficient for an employee to live happily without experiencing financial hardship (ILO, 2013). Duffy et al. (2017) state that through adequate compensation is achieved when enough earnings are gained, and fair payment is one of the crucial variables to ensure decent work fulfillment; and
- (e) Access to adequate health care: access to healthcare can ensure overall better well-being and fewer workplace injuries, and in a general more productive environment. Duffy et al. (2016) stated that decent work is achieved under access to individual and family healthcare benefits. In general, access to health care would ensure productivity and fewer workplace injuries, as well as less tension about future health issues. Healthcare payments would act as insurance and secure future uncertainty.

Even though a vast literature has examined DWE within an organizational context, yet few literature attempts to relate decent work to innovative work behavior, especially within higher education institutions (Xu et al., 2022).

Decent work in higher education: Egyptian content. Egypt is an Arab republic with a population of 106 million inhabitants,

supported by an extensive workforce of approximately 32.614 million in 2022, with a labor force growth rate around 3.7% (World Bank databank, 2024). The Egyptian labor force is predominantly male-dominated, characterized as youth, with 32.29% falling between the ages of 15 and 24, and 49% between 30 and 49 (CAPMAS, 2021, p. 65). The educational landscape encompasses around 28 public universities besides Al-Azhar University (CAPMAS, 2022, p.124). Al-Azhar University, which is the oldest university in the region, was established in 970 as a mosque and then developed into be a higher education institution for religious and science education (Jimba, 2016). Within these public academic institutions, there are approximately 71,296 academic staff members, of whom 47.2% are female (CAPMAS, 2022, p. 124). In addition to public universities, there are 37 private universities collectively employing 14,500 academic staff, with 60% being female (CAPMAS, 2022, p. 130).

However, Egyptian academics face a number of challenges that hinder their effectiveness and well-being. These challenges encompass difficulties in publishing due to language barriers, inadequate training, and the rigorous standards of international journal acceptance (Shehata and Eldakar, 2018). Furthermore, academic staff face obstacles such as limited resources, inadequate funding, heavy teaching loads, administrative burdens, limited career advancement opportunities, and constraints on academic freedom (Naidoo-Chetty and du Plessis, 2021; Sywelem, 2020; Sywelem and Makhoul, 2023). These challenges pose significant concerns regarding the assessment of decent work within the sector, which can be analyzed through the lens of adequate compensation, work hours, healthcare, workplace safety, and supportive organizational and cultural values (Duffy et al., 2016).

In terms of compensation, the education sector ranks lowest in average weekly wages, according to CAPMAS (2019, p. 7), while workers in the financial sector earn the highest average weekly wages, followed by those in the mining sector. A number of scholars (Mousa et al. 2020; Mousa, 2021; Nidofirepi et al. 2020) have pointed out that low salaries at Egyptian public universities act as a barrier to improving higher education. Sywelem (2020) has expressed that monthly wages are not enough to cover monthly obligations, especially for academics working in public universities. Sywelem (2020) has added that academics would depend on other income sources, such as private tutoring and selling course materials, and added that low salaries are also one of the reasons for Egyptian academics' migration. Nevertheless, there has been expansion in the last two decades in the private sector's role in higher education, represented in private universities, private-public partnerships (Helmy et al., 2020), and even international universities' campuses. Wages in the private sector are higher than in the public sector, making it more preferred with less turnover (Aboudahab et al., 2022). In spite of all challenges, women are heavily represented in faculty positions and are fairly paid; moreover, hiring and promotion criteria are set by the Higher Education Supreme Council regardless of gender or religion (Mousa, 2021).

The workload for academic staff is multidimensional, comprising teaching, research, and administrative duties, often leading to stress and challenges in maintaining work-life balance, particularly for those pursuing PhD degrees and women managing caregiving responsibilities (Aboudahab et al., 2022; Mousa, 2022). However, long working hours are increasingly becoming a characteristic of competitive work conditions, and putting more stress on women practicing their jobs as care givers and on men to spend sufficient time with their families (Ghoneim, 2021).

Universities adhere to the mandatory national social insurance policy, yet due to the large population and limited country resources, this system suffers from numerous deficiencies and inequalities (Gericke, 2006). To mitigate these shortcomings,

private universities often provide private healthcare systems, which are seen as a privilege by some staff and play a significant role in fostering loyalty (Aboudahab et al. 2022). However, it's worth noting that these private healthcare systems typically do not extend coverage to family members. Concerning work safety, it is noticeable that work injuries in the education sector remain relatively low compared to other industries. This can be attributed to the nature of work typically performed in educational settings, which involves minimal physical risk factors such as heavy machinery or hazardous materials. According to CAPMAS (2021), only 0.8% of total injuries occur in the education sector, with the largest number of work injuries reported among industry technicians, followed by craft and machine assemblers.

Organizational and cultural values play a crucial role in determining the academic institutions' perception of inclusion in Egypt (Mousa et al. 2020). Egyptian society is defined by collectivism, emphasizing familial ties and respect for religious views, despite the country's broad racial, religious, and ethnic groups (Hussein, 2022; Sidani and Jamali, 2010). Furthermore, after the 2011 revolution, there has been a noticeable change in the way that employment environments value privacy, independence, and individual rights (Beinin, 2012). The importance of gaining a deeper understanding of inclusion within the higher education sector is emphasized. However, there are still very few quantitative studies that look at the Egyptian context of decent employment in higher education, despite the significance of these cultural processes. Therefore, conducting quantitative analyses is essential for gaining a deeper insight into the factors shaping inclusivity and organizational values within academic institutions in Egypt.

Innovative work behavior. Innovation at work is essential to the success of any organization; including educational institutions in general and the organizational growth of the educational process in particular (Ayoub et al., 2023). As education at all levels undergoes significant changes that necessitate radical transformations and as the roles of academic staff change to keep up with the rapidly shifting job market, it will become increasingly important to have innovative academic staff who can foster critical and creative thinking, lifelong learning, and adaptive behavior (Lambriex-Schmitz et al., 2020b). Hence, more creativity and flexibility are needed from academic staff members in the current changing environment. Therefore, innovation in work practices is necessary for the sustainability of higher education institutions and beyond.

Employee creativity and IWB are not the same concept (De Spiegelaere et al., 2016). IWB refers to the deliberate creation, promotion, and implementation of unique ideas within an organization (Janssen, 2000), it encompasses "all employee behavior related to different phases of the innovation process" (De Spiegelaere et al., 2016). While employees who produce novel, cutting-edge ideas are more creative (Amabile, 1988), hence, employee creativity is therefore only a part of IWB. Contextual factors such as compensation, job security, workload, and job responsibilities influence IWB or employee creativity. Research has explored various aspects of employees' IWB in different sectors. In specific, IWB is reported to enhance the efficacy and efficiency of teaching innovation and knowledge exchange in higher education institutions (Lambriex-Schmitz et al., 2020b).

Abbas et al. (2012) investigate the connection between innovative work practices among employees in educational institutions and aspects of transformational leadership, in which they report the correlation between four aspects of innovative work behavior and the other five aspects of transformational

leadership. Similarly, Khan et al. (2020) reveal a significant positive association between IWBs of employees and the leadership styles of heads of departments at higher education institutions, with organizational culture and organizational citizenship behavior acting as mediators and moderators. Messmann and Mulder (2011) and Lambriex-Schmitz et al. (2020a) assess the IWB of instructors in the field of vocational education. They conclude that IWB is crucial in the teaching profession to advance knowledge-based societies that depend on cutting-edge thinking patterns, applications, and practices. Thurlings et al. (2014) propose a model of the elements that support creative behavior in educational organizations. They report that self-efficacy, along with a number of other individual and environmental elements, has a significant impact on human behavior. Namono et al. (2021) conduct a study on how to influence innovativeness in higher education institutions by proposing that hope and its two components of agency and pathways can influence innovative work behavior. Ayoub et al. (2023) determine the extent of IWB in higher education for academic staff at universities in the Gulf Cooperation Council Countries (GCC) and examine its psychometric features.

Decent work, work engagement, and innovative work behavior: direct and indirect relations

Relationship between decent work and innovative work behavior. In today's highly dynamic environment, where innovation and creativity play an important role in workplace success, DW can serve as a motivating factor for academics to engage in innovative work behavior. The feeling of being valued and secured in the workplace and having a supportive working environment can inspire academics to explore new ideas and teaching approaches. Based on the conservation of resources theory (COR), organizational and individual factors influencing employee IWB demand a high level of resource input (Yan et al., 2023). Individuals who prioritize a specific resource engage in behaviors that benefit their organization (Hobfoll et al., 2018). Further, through organization factors (i.e., job characteristics and environmental factors), employees' behavior is influenced (Lee et al., 2021), and one of the critical resources is DW. In order to attain DW, one must fulfill a basic human desire and need, which will encourage innovation in the workplace. Previous studies found a significant impact of DW on employee's resilience and motivation, which led to better employees' productivity and well-being (Ferraro et al., 2018). Academics who have access to good working conditions—like competitive pay, adequate healthcare, safe a working environment, and more free time—are more satisfied with their job (Janssen, 2000). When academics feel secure in their workplace, they may be willing to take risks and come up with innovative ideas that benefit the institution. As a result, innovation is tied to the decent work factors, as IWB is very demanding and requires more effort and time to solve complicated problems (Huhtala and Parzefall, 2007).

Organizations that enforce DW will motivate their employees to engage in innovative behavior. As a result, employees will consistently develop novel ideas and innovate their working methods (Yan et al., 2023). Based on this, we propose that DW has a direct impact on employee innovative behavior:

H1: DWE has a positive significant impact on IWB for academic staff

Work engagement. Work engagement can be defined as the opposite of burnout; it is a positive, satisfying, affective-motivational state of work-related well-being and is accompanied by work dedication (Bakker and Albrecht, 2018; Leiter and Bakker, 2010). The first conceptualized research addressing work

engagement is considered the work of Kahn (1990) (Bakker et al., 2007; Graça et al., 2021; Schaufeli and Bakker, 2010). Kahn (1990) has addressed what he called personal engagement in work, trying to evaluate to what degree workers would be engaged physically, cognitively, and emotionally in what they are producing. Work engagement is "characterized by vigor, dedication, and absorption" (Schaufeli and Bakker, 2004; p. 295). High levels of energy and resistance in the face of difficulty are indicative of vigor. While intense significance, pride, challenge, and enthusiasm for one's work are indicative of dedication, absorption describes the capacity to focus on the task being created at work (Bakker et al., 2007; Schaufeli and Bakker, 2004). Schaufeli and Bakker (2010) explain that work engagement has more added value in comparison to "extra-role behavior," which is concerned with doing more than required; "organizational commitment," which is a psychological state of attachment; "job satisfaction," which is an enjoyable emotional state; and "workaholicism," which is an uncontrollable inner will. Work Engagement is more like; making a difference at work rather than making more work, being attached to a work role rather than an organization, and creating challenges with fun rather than working unconsciously (Schaufeli and Bakker, 2010).

Universally, businesses are highly concerned with work engagement as a tool for increasing productivity, sales, customer loyalty, and employee holding, therefore, boosting profitability (Schaufeli and Bakker, 2010). Respectively, scholars were interested in evaluating and examining factors that enhance work engagement. Based on the Job Demands-Resources (JD-R) model, two main characteristics impact work engagement, which are job demand and job resources. Job demand is represented by the physical, social, or organizational features needed to perform, while job resources are those aspects offered to workers through work. Resources can be institutional aspects such as salary and promotion, social aspects such as supervisors' and co-workers' support, work-related aspects such as work clarity and decision-making participation, and performance outcomes such as appraisal and feedback. The JD-R model proposes that job demand would lead to exhaustion due to the physical and mental effort exerted, while a lack of resources would lead to disengagement (Bakker and Demerouti, 2007; Demerouti et al., 2001). Bakker et al. (2007) suggested that job resources can offset job demand burnout and lead to work engagement. Further literature has contributed to refining the JD-R model and testing the negative impact of job demand and the positive impact of job resources, such as Crawford et al. (2010), Bakker and Demerouti (2014), and Schaufeli (2017).

Others have concentrated on investigating the relationship between only one or two components of job resources, such as Othman and Nasurdin (2013), who showed a positive relationship between supervisors' support and work engagement in nurseries in Malaysia. Rastogi and Saikia (2019) displayed that family-work enrichment and supervisor support play a significant positive role in increasing the work engagement levels among Indian nurses, and Garg et al. (2018) investigated the positive role of job satisfaction, which is highly related to job performance, on work engagement for managers of private sector banks. Moreover, Mahboubi et al. (2015) and Topchyuan and Woehler (2021) empirically investigated the impact of demographics such as age, work experience, sex, education level, and occupation on the level of work engagement.

As presented in this literature, determinants of work engagement are related to dimensions of decent work. Nevertheless, few studies attempt to relate decent work self-scale to work engagement self-scale. From these studies, Ferraro et al. (2020) concluded a direct relationship between decent work conditions and work engagement in a sample of Portuguese and Brazilian

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Table 9 Mediation Analysis Results.

Total effects	Direct Effect			Indirect Effect			Percentile bootstrap 97.5% confidence interval
	Coef.	T value	p value	Coef.	SE	T value	
Hypothesis							Lower
H4: DWE → WE → IWB	0.254	2.979	0.003	0.132	0.038	3.470	0.064
H7: DWE → JE → WE	0.526	9.091	0.000	0.098	0.031	3.151	0.045
							Upper
							0.212
							0.164

SE standard error; DWE decent work environment; WE work engagement; IWB innovation work behavior.

to that, it might be interesting to examine the moderating impact of other variables to better understand the underlying mechanism of decent work and IWB. Further, our results could be subject to inflated bias as a result of the data coming from self-reported measures. Finally, the study focused on the academic staff side; future qualitative research could integrate the employer's perspective in validating the academic staff insights to uncover issues that might be overlooked.

Data availability

All data generated or analyzed during this study are included in this published article and its supplementary information files.

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Table 8 Summary of hypotheses testing- direct relationships.

Hypotheses	Beta Coefficient	Standard deviation	T statistics	P values	Status
H1. DWE -> IWB	0.052	0.087	0.580	0.562	Not Supported
H2.DWE -> WE	0.433	0.059	7.314	0.000	Supported
H3. WE -> IWB	0.304	0.073	4.416	0.000	Supported
H5. DWE -> JSE	0.295	0.078	3.765	0.000	Supported
H6.JSE -> WE	0.337	0.068	4.943	0.000	Supported

Relationships are significant at $P < 0.001$.

DWE decent work environment, WE work engagement, JSE job self-efficacy, IWB innovative work behavior.

work, employed in the current study, makes it more relevant in the current era, particularly in the face of challenges that Egypt is facing such as underemployment, job insecurity, wage stagnation, and worker atomization.

Practical implications. The study presents practical implications for many interested parties in higher education institutions. First, creating decent work environments—which include competitive pay, impartial assessments, job security, mutual respect, encouragement of work-life balance, management through participation, job enrichment, opportunities for skill development, career management, and corporate culture education—will help to improve the IWB of academic staff members. Costs may be incurred, but they can be recovered by increased innovative performance. There are a few examples of practices that can be implemented to increase staff's innovative work behavior, work engagement, and self-efficacy level. By providing and sustaining a decent working environment, this might reduce staff stress and burnout. The academic community attributes burnout to low self-accomplishment resulting from the weight of research and strict journal rejection procedures, in addition to student conduct and insufficient dedication in comparison to substantial teaching efforts (Byrne et al. 2013; Doyle and Hind, 1998). Higher education institutions can successfully handle academic burnout and occupational stress by implementing measures to promote decent work, which will also develop an environment that stimulates creativity. This could be achieved by providing a healthy and safe environment for their staff. A decent work agenda for academic staff should pay attention to the enhancement of stability and security at work through better contracts that respect human rights at work, as suggested by Ferraro et al. (2016).

Academic staff should lower their working hours to reduce stress and burnout. At the same time, they should be given better healthcare to improve life satisfaction. In addition to that, it is highly recommended that educational institutions help the academic staff become more self-sufficient. This could be achieved through professional development programs which can be used to instill strong attitudes, values, and beliefs about their obligations. Moreover, pandemic social distance policies during COVID-19 have highlighted the importance of merging digitalization in academia. The widespread of the virus forced different educational institutions to adopt new digital technology (Alabdulaziz, 2021; Strielkowski, 2020). To ensure effective utilization of these technologies, it is crucial for academics to possess the willingness and capability to innovate. The results of this paper suggest that promoting decent work would create this willingness and, respectively, expand the benefit of the digitalization tools used during the pandemic era and post pandemic.

Conclusion

The main objective of this study is to explore the impact of decent work on faculty members' innovative work behavior and the role of work engagement in mediating this relationship. In addition to

that, the study investigated the mediating role of self-efficacy in the relationship between decent work and work engagement. After collecting a sample of 224, we analyzed the data using PLS-SEM. The results show that decent work has no significant effect on IWB. However, DW has a positive impact on work engagement, while work engagement plays a full mediating role in the relationship between decent work and innovative work behavior. Moreover, the results show that self-efficacy plays a mediating role in the relationship between decent work and work engagement.

This study contributes to the existing literature in several ways. First, by examining the process of developing IWB, the study aims to contribute to the body of knowledge on decent work. By examining the roles of work engagement and job self-efficacy in the relationship between DWE and IWB among academic staff members, our study fills in the gaps. In particular, job self-efficacy is identified as a potential mediating variable since it may influence work engagement (Tims et al., 2011). Second, with most of the DWE and IWB studies conducted in the context of the Western corporate sector (Kashyap et al., 2022); the context of the study is one of the contributions. The study is one of few studies conducted in emerging economies that highlight "decent work" as an essential job resource, useful in enhancing work engagement and leading to higher IWB among faculty members in higher education institutions. Additionally, as more international universities establish and run branches in Egypt, it is more crucial than ever to comprehend the level of academic staff engagement. To the best of our knowledge, this study is the first to examine the conduct and levels of engagement of Egyptian academic staff members employed by higher education institutions.

Although this study makes theoretical and practical contributions, it also has several limitations. First, this study employed a cross-sectional design, which prevents us from drawing causal inferences among the variables included in our model, thus limiting the generalizability of the findings. One example is the possibility that work engagement could be the reason for higher self-efficacy, as found in the work of Salanova et al. (2011). Future research may carry out longitudinal studies to understand the hypothesized causal relations among decent work, self-efficacy, work engagement, and IWB for extended periods of time. Second, the majority of the sample were females (72%), reflecting the dominance of women in higher education institutions. Future research will strive for a more balanced and representative sample. Third, the sample size was small, and the majority of respondents were located in Cairo. Future research may be conducted in other geographic regions with sufficiently large sample sizes to produce a reliable comparison. Third, the convenience sampling technique that was used could make it challenging to generalize the findings. Fourth, the sample has been collected from one occupational group, which makes it difficult to generalize the results. Furthermore, although the results showed that work engagement mediates the relationship between decent work and IWB, future research could extend the number of mediators, such as job satisfaction, self-esteem, motivation, etc. In addition

Table 6 Results of discriminant validity by HTMT.

	SWC	HC	AC	TR	OV	WE	JSE	IWB
SWC								
HC	0.374							
AC	0.289	0.347						
TR	0.216	0.116	0.332					
OV	0.587	0.269	0.180	0.162				
WE	0.558	0.290	0.268	0.166	0.405			
JSE	0.293	0.112	0.102	0.149	0.265	0.477		
IWB	0.215	0.193	0.177	0.108	0.186	0.496	0.544	

DWC safe working conditions, HC healthcare, AC adequate compensation, TR time and rest, OV organizational values, WE work engagement, IWB innovative work behavior, JSE job self-efficacy.

Table 7 Multicollinearity Statistics for the Indicators (VIF).

Item	VIF
SWC1	2.441
SWC2	2.156
SWC3	1.535
HC1	4.388
HC2	“Dropped”
HC3	4.388
AC1	3.068
AC2	3.098
AC3	1.071
TR1	1.985
TR2	2.176
TR3	1.152
OV2	3.098
OV3	3.098
WE1	2.058
WE2	2.900
WE3	3.701
WE4	2.578
WE5	2.939
WE6	2.542
WE7	2.324
WE8	2.000
WE9	2.840
JSE1	2.723
JSE2	1.344
JSE3	2.715
JSE4	4.120
JSE5	3.616
JSE6	2.769
JSE7	2.299
JSE8	4.580
JSE9	4.069
JSE10	3.748
IWB1	2.112
IWB2	3.239
IWB3	4.990
IWB4	4.109
IWB5	3.132
IWB6	3.473
IWB7	“Dropped”
IWB8	“Dropped”
IWB9	4.055

exhibits innovative work behavior. Higher levels of engagement increase the likelihood of a secure and rewarding working relationship for employees. Kahn (1990) defined engaged employees as those who used and expressed themselves physically, mentally, and emotionally while carrying out their work. By increasing their effort, engagement, mindfulness, and intrinsic motivation,

employees can be encouraged to express and use their true identities, thoughts, and feelings (such as creativity, playfulness, personal voice and emotions, non-defensive communication, and ethical behavior) (Kahn, 1990). As a result, workers are in a good frame of mind for work and are more likely to act freely, such as coming up with and putting into practice original, creative ideas. This finding is in line with the literature; for instance, (Rodwell et al., 2017; Aboramadan Abbas et al., 2020; Agarwal et al., 2012; Alfes et al., 2013; Haynie et al., 2016; Rich et al., 2010). Their studies indicate that work engagement is found to be a significant predictor of work performance and extra-role behaviors, such as innovative and citizenship behaviors. However, such studies are conducted in service institution leaving higher education institutions with unexplored research areas. Addressing this gap in the literature, the current study highlights the behavioral contributions made to higher education institutions by engaging academic staff.

Fourth, similar to previous results obtained by Kowalski (2003) and Noorossana et al. (2021), our results also indicated that decent work is positively related to self-efficacy, giving support to (H5). Most decent work dimensions help to enhance an individual's self-efficacy by satisfying their needs, which can further promote their work engagement. Based on the perspective of PWT and SDT, academic staff with a high level of self-efficacy, aspects such as workplace safety, working hours, medical support, salary, and values may serve as important motivations for job satisfaction (Niessen et al., 2018).

Fifth, self-efficacy was found to be positively related to work engagement; thus, (H6) is supported. Academic staff with high levels of self-efficacy are more likely to experience high levels of work engagement. The results of this relationship are in line with previous studies conducted (e.g., Del Libano et al., 2012; Sweetman and Luthans, 2010; Xu et al., 2022; Perera et al., 2018), showing that self-efficacy contributes to work engagement. The social cognitive theory holds that people's goals, choices, level of effort put into a task, and ability to persevere through challenging circumstances and unknown results are all influenced by their expectations about their own efficacy (Bandura, 1986). High self-efficacy academic staff may view demands as challenges rather than obstacles, which will lead to greater engagement at work (Ventura et al., 2015). Therefore, instructors who feel capable of having a good performance feel more engaged towards their work, leading them to tend to initiate behaviors that exceed their formal role.

Finally, although self-efficacy partially mediates the relationship between decent work and work engagement (H7), it is worthwhile to note that decent work has a direct effect on work engagement. This result suggests that decent work is likely to affect academics' work engagement through other mechanisms than self-efficacy, such as self-esteem (Pierce et al., 1989).

Research contribution

Theoretical contribution. The current study expands the notion of decent work by linking it to innovation in workplace behavior and anticipates more attitudinal and behavioral mediators (work engagement and job self-efficacy) associated with the notions of DWE and IWB. Hence, the results of this study contribute to growing the nomological network of the decent work concept, as suggested by Graça et al. (2021), through analyzing academic behaviors and perceptions of decent work. The study also contributes to the literature on academic creativity and innovation by treating DW as the antecedent, guiding academic attention from separate contextual factors to the integration of wider organizational and institutional factors to foster academic staff innovativeness. The integrative and comprehensive nature of decent

Table 4 Fornell-Larcker Criterion for Discriminant Validity.

	SWC	HC	AC	TR	OV	WE	JSE	IWB
SWC	0.858							
HC	0.330	0.965						
AC	0.216	0.343	0.769					
TR	0.102	0.019	0.146	0.741				
OV	0.519	0.256	0.176	0.174	0.948			
WE	0.487	0.279	0.249	0.164	0.385	0.786		
JSE	0.265	0.110	0.094	0.073	0.256	0.457	0.797	
IWB	0.200	0.183	0.154	-0.098	0.182	0.471	0.592	0.862

SWC safe working conditions, HC healthcare, AC adequate compensation, TR time and rest, OV organizational values, WE work engagement, IWB innovative work behavior, JSE job self-efficacy.

Table 5 Standardized Factor Loadings and Cross Loadings of the Outer Model.

	SWC	HC	AC	TR	OV	IWB	WE	JSE
SWC1	0.911	0.270	0.231	0.144	0.488	0.252	0.462	0.264
SWC2	0.861	0.306	0.256	0.047	0.402	0.173	0.404	0.185
SWC3	0.797	0.277	0.061	0.061	0.439	0.076	0.381	0.228
HC1	0.326	0.972	0.319	0.015	0.240	0.191	0.255	0.111
HC2	0.332	0.970	0.330	0.036	0.252	0.181	0.274	0.094
HC3	0.297	0.952	0.341	0.003	0.248	0.159	0.278	0.113
AD1	0.009	0.207	0.795	0.071	-0.025	0.141	0.170	0.092
AD2	0.025	0.090	0.735	0.075	0.014	0.085	0.085	0.048
AD3	0.338	0.375	0.776	0.159	0.302	0.117	0.251	0.067
TR1	-0.107	-0.096	0.139	0.551	-0.019	-0.014	-0.004	0.068
TR2	-0.065	-0.053	0.182	0.759	-0.022	-0.077	0.079	0.105
TR3	0.202	0.073	0.075	0.877	0.265	-0.090	0.185	0.028
OV1	0.475	0.248	0.180	0.174	0.948	0.131	0.325	0.154
OV2	0.533	0.251	0.183	0.185	0.968	0.166	0.370	0.258
OV3	0.465	0.231	0.142	0.139	0.928	0.270	0.389	0.292
IWB1	0.190	0.178	0.109	-0.092	0.111	0.778	0.501	0.515
IWB2	0.184	0.128	0.134	-0.060	0.122	0.863	0.429	0.624
IWB3	0.231	0.157	0.158	-0.062	0.207	0.893	0.452	0.608
IWB4	0.200	0.101	0.122	-0.077	0.214	0.899	0.443	0.547
IWB5	0.158	0.144	0.169	-0.105	0.148	0.832	0.355	0.441
IWB6	0.097	0.160	0.058	-0.123	0.108	0.845	0.326	0.431
IWB7	0.149	0.201	0.163	-0.121	0.163	0.886	0.351	0.439
IWB8	0.154	0.200	0.140	-0.094	0.189	0.892	0.388	0.429
IWB9	0.156	0.167	0.140	-0.050	0.144	0.866	0.350	0.467
WE1	0.448	0.269	0.183	0.094	0.335	0.331	0.730	0.254
WE2	0.419	0.313	0.302	0.177	0.344	0.330	0.821	0.292
WE3	0.400	0.197	0.215	0.109	0.286	0.386	0.870	0.367
WE4	0.348	0.235	0.172	0.143	0.373	0.412	0.812	0.413
WE5	0.455	0.332	0.340	0.159	0.303	0.334	0.832	0.297
WE6	0.343	0.192	0.226	0.236	0.299	0.369	0.789	0.314
WE7	0.345	0.028	0.027	0.042	0.245	0.388	0.703	0.511
WE8	0.319	0.190	0.005	-0.008	0.199	0.366	0.675	0.421
WE9	0.354	0.177	0.218	0.171	0.315	0.428	0.822	0.411
JSE1	0.213	-0.028	0.017	0.023	0.166	0.416	0.294	0.802
JSE2	0.184	0.128	0.134	-0.060	0.122	0.363	0.429	0.624
JSE3	0.312	0.117	0.048	0.016	0.255	0.401	0.418	0.801
JSE4	0.265	0.116	0.131	0.038	0.253	0.426	0.408	0.847
JSE5	0.193	0.125	0.086	0.083	0.246	0.422	0.337	0.834
JSE6	0.262	0.019	0.016	0.114	0.239	0.261	0.337	0.775
JSE7	0.149	0.026	0.004	0.187	0.192	0.290	0.308	0.744
JSE8	0.208	0.089	0.055	0.053	0.239	0.400	0.336	0.871
JSE9	0.137	0.082	0.049	0.120	0.152	0.363	0.294	0.818
JSE10	0.134	0.120	0.111	0.162	0.186	0.357	0.317	0.829

The bold cells are the factor loadings of scale items for each construct.

SWC safe working conditions, HC healthcare, AC adequate compensation, TR time and rest, OV organizational values, WE work engagement, IWB innovative work behavior, JSE job self-efficacy.

Table 3 Reliability and AVE of the outer model.

Construct	Indicators	Factor Loading	Composite Reliability	AVE
SWC	SWC1	0.911	0.893	0.735
	SWC2	0.861		
	SWC3	0.797		
HC	HC1	0.972	0.976	0.931
	HC2	0.970		
	HC3	0.952		
AD	AD1	0.795	0.813	0.591
	AD2	0.735		
	AD3	0.776		
TR	TR1	0.551	0.780	0.550
	TR2	0.759		
	TR3	0.877		
OV	OV1	0.948	0.964	0.899
	OV2	0.968		
	OV3	0.928		
WE	WE1	0.730	0.935	0.618
	WE2	0.821		
	WE3	0.870		
	WE4	0.812		
	WE5	0.832		
	WE6	0.789		
	WE7	0.703		
	WE8	0.675		
	WE9	0.822		
IWB	IWB1	0.778	0.963	0.744
	IWB2	0.863		
	IWB3	0.893		
	IWB4	0.899		
	IWB5	0.832		
	IWB6	0.845		
	IWB7	0.886		
	IWB8	0.892		
	IWB9	0.866		
JSE	JSE1	0.802	0.945	0.636
	JSE2	0.829		
	JSE3	0.624		
	JSE4	0.801		
	JSE5	0.847		
	JSE6	0.834		
	JSE7	0.775		
	JSE8	0.744		
	JSE9	0.871		
	JSE10	0.829		

JWC: safe working conditions, HC: healthcare, AC: adequate compensation, TR: Time and rest, OV: organizational values, WE: work engagement, IWB: innovative Work Behavior, JSE: job self-efficacy.

of work engagement as a mediator, the effect of decent work engagement on IWB becomes significant ($\beta = 0.254$, $t = 2.979$, $p < 0.05$). This shows a full-mediation role of work engagement in the relationship between decent work environment and IWB. Hence, H4 is supported. H5 evaluates whether DWE significantly and positively affects job self-efficacy. Results in Table 8 show that DWE has a significant and positive impact on job self-efficacy ($\beta = 0.295$, $t = 3.765$, $p < 0.001$). Thus, H5 is supported. Next, H6 examines whether job self-efficacy significantly and positively affects work engagement. Table 8 shows that it has a significant and positive impact on work engagement ($\beta = 0.337$, $t = 4.943$, $p < 0.001$). Therefore, H6 is supported.

Furthermore, the results shown in Table 9 reveal a significant indirect effect of decent work environment on work engagement through job self-efficacy ($\beta = 0.098$, $t = 3.151$, $p < 0.05$). The total effect of decent work environment on work engagement was significant ($\beta = 0.526$, $t = 9.091$, $p < 0.001$), and with the

inclusion of job self-efficacy as a mediator, the effect of decent work engagement was still significant ($\beta = 0.428$, $t = 7.673$, $p < 0.001$). This shows a complementary partial mediation role of job self-efficacy in the relationship between decent work environment and work engagement. Hence, H7 is supported.

Discussion

The present study examined the relationship between decent work and IWB in higher education institutions. Drawing on the COR, PWT, SDT, JD-R, social cognitive theory, and social exchange theories, the study investigated the impact of decent work on the academic staff's IWB through the mediation role of work engagement, with self-efficacy mediating the relationship between decent work and work engagement.

First, based on the COR, which posits that DW affects the employee's innovative working behavior, a hypothesis concerning the significant relationship between DWE and IWB (H1) was proposed; however, it was not supported by the findings. While previous studies had identified a significant impact of DW on employees' IWB (Hobfoll et al. 2018; Yan et al. 2023; Anderson et al. 2014; Huang and Yuan, 2022), our results found no significant effect. This aligns with the work of Alkaj et al. (2021) and Sun and Huang (2019), who stated that there are other factors (i.e., proactive personality and psychological factors) that lead to employee's IWB. Additionally, Lee et al. (2021) have highlighted the importance of organizational factors in shaping the employee's IWB. The insignificant results might be associated with the nature of the job itself. DW are essential for the well-being of the academic staff, but they do not directly impact their innovative behavior due to the complexity of the job. If academic staff lack access to resources (i.e., funding, facilities, technologies, and equipment), this will eventually affect their IWB, even with DW conditions. Employees' IWB may be influenced by their ability to meet job demands (Li and Hsu, 2016). Often, the academic staff are motivated to innovate as a result of their research and teaching passion. They must perceive their work as meaningful and worthwhile (Graça et al., 2021). Further, the innovative culture within higher education institutions might differ from those of firms and are affected by other external factors and institution policies; thus, their motive to innovate differs.

Second, decent work is about receiving a working environment that ensures that individuals receive their needs, which in turn would increase their degree of commitment at work (Navajas-Romero et al., 2019). Our results support these views and confirm that academics need to receive good working conditions to enhance work engagement. Thus, (H2) is supported. Similar results were attained in earlier research of the same professional group, such as Graça et al. (2021), while Kashyap et al. (2022) found that only two of the five dimensions of "decent work," which are "access to health care" and "complementary values," were significant to work engagement. Moreover, work engagement acts as a mediating factor between DWE and IWB (H4) as suggested by Xu et al. (2022). This simply means that when an employee feels that s/he received his/her rights, s/he will be more engaged and dedicated to the organization. Respectively, employees will work on repaying back to the organization in terms of innovation (Xu et al., 2022). Our results show this applies within the context of faculty members in developing countries.

Third, we suggest that how innovatively academic staff members function is influenced by their level of workplace engagement. The results support (H3) by demonstrating that academic staff members' work engagement is positively correlated with their innovative work behavior. This is consistent with the social exchange theory, which contends that an engaged workforce

Table 2 Variables measurement and scale sources.

Construct	Definition	Items	Source
Safe working conditions	Decent work that creates physical and interpersonally safe working environment (e.g., free from physical, mental, or emotional hurt)	1. I feel emotional safety interacting with people at work. 2. At work, I feel safe from emotional or verbal abuse of any kind. 3. I feel physically safe interacting with people at work.	(Duffy et al., 2017)
Health Care	Decent work that provides people with adequate health care	4. I get good healthcare benefits from my job. 5. I have a good healthcare plan at work. 6. My employer provides acceptable options for healthcare.	(Duffy et al., 2017)
Adequate Compensation	Decent work that provides people with something good that serves as a balance against something undesirable	7. I am not properly paid for my work. 8. I do not feel I am paid enough based on my qualifications and experience.	(Duffy et al., 2017)
Time and Rest	Decent work that allows for free time and sufficient rest	9. I am rewarded adequately for my work. 10. I do not have enough time for non-work activities. 11. I have no time to rest during the work week.	(Duffy et al., 2017)
Organizational Values	The values in the working organizations that complement family and social values	12. I have free time during the workweek. 13. The values of my organization match my family values. 14. My organization's values align with my family values. 15. The values of my organization match the values within my community.	(Duffy et al., 2017)
Work Engagement	The positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption	1. At my work, I feel bursting with energy. 2. I feel energetic and capable when I am working or going to work. 3. I am enthusiastic about my work. 4. My job inspires me. 5. When I get up in the morning, I feel like going to work. 6. I feel happy when I am working intensely. 7. I am proud of the work that I do. 8. I am immersed in my work.	(Schaufeli and Bakker, 2006)
IWB	The deliberate creation, promotion, and implementation of unique ideas within an organization	9. I get carried away when I am working. 1. Creating new ideas for difficult issues 2. Searching out new working methods, techniques, or instruments 3. Generating original solutions for problems 4. Mobilizing support for innovative ideas 5. Acquiring approval for innovative ideas 6. Making important organizational members enthusiastic for innovative ideas 7. Transforming innovative ideas into useful applications 8. Introducing innovative ideas into the work environment in a systematic way 9. Evaluating the utility of innovative ideas	(Janssen, 2000)
IWB-Self Efficacy	The person's confidence about his/her ability to mobilize the motivation, cognitive resources, and actions needed to perform a specific task	1. I can always manage to solve difficult problems if I try hard enough. 2. If I, someone opposes me, I can find the means and ways to get what I want. 3. It is easy for me to stick to my aims and accomplish my goals. 4. I am confident that I could deal efficiently with unexpected events. 5. Thanks to my resourcefulness, I know how to handle unforeseen situations. 6. I can solve most problems if I invest the necessary effort. 7. I can remain calm when facing difficulties because I can rely on my coping abilities. 8. When I am confronted with a problem, I can usually find several solutions. 9. If I am in trouble, I can usually think of a solution. 10. I can usually handle whatever comes my way.	(Schwarzer and Jerusalem, 1995).

$p > 0.1$). Thus, H1 is not supported. The results presented in Table 8 reveal that DWE has a significant and positive impact on work engagement ($\beta = 0.433$, $t = 7.314$, $p < 0.001$). Hence, H2 is supported. H3 examines whether work engagement has a significant and positive effect on IWB. Results shown in Table 8 illustrate that work engagement, as hypothesized, has a significant and positive effect on IWB ($\beta = 0.304$, $t = 4.416$, $p < 0.001$). Thus,

H3 is supported. Mediation analysis is performed to assess the mediating role of work engagement in the relationship between DWE and innovative work behavior. The results in Table 9 illustrate a significant indirect effect of decent work environment on IWB through work engagement ($\beta = 0.132$, $t = 3.410$, $p < 0.05$). The direct effect of decent work environment on IWB is insignificant, as shown earlier (H1). However, with the inclusion

(2004). The instruments measure the three dimensions of work engagement as highlighted in Schaufeli et al. (2002) work: vigor, dedication, and absorption. Each of these dimensions is measured with three items; together, they form the nine items. The items are rated on a 7-point Likert scale ranging from 0 = "never" to 6 = "always-everyday". Example items are: "I feel energetic and capable when I am working or going to work" (vigor), "I feel happy when I am working intensely" (dedication), and "I get carried away when I am working" (absorption).

Outcome

IWB: To measure the IWB, the nine items scale was adopted from the work of Janssen (2000), which was assessed based on Scott and Bruce's (1994) scale. The instrument measures the three dimensions, namely: idea generation, idea promotion, and idea realization. The items are rated on a 7-point Likert scale ranging from 1 = "never" to 5 = "always". Example items are "Searching out new working methods, techniques, or instruments" (idea generation), "Acquiring approval for innovative ideas" (idea promotion), and "Evaluating the utility of innovative ideas" (idea realization).

Control Variables

Descriptive variables: Gender, age, experience, position, education, type of university, and location data were collected due to their potential impact on self-efficacy level, work engagement, and IWB (Schaufeli and Bakker, 2004).

Table 2 operationalizes the used questionnaire.

Results

The Partial Least Square (PLS) Structural Equation Modelling (SEM) technique, which is based on path and regression analysis (Richter et al., 2016), is used to examine the data that is gathered. Research on different fields of social sciences is increasingly using (PLS-SEM). It was chosen because it is suitable for describing how construct variables are related to one another and because it can deal with both model constructs and measurement items at once. The constraints for the variables' normality and randomness are also relaxed. It may therefore manage associations between variables with abnormal data distribution. Additionally, according to Chin (1998), Chin and Newsted (1999), and Ringle et al. (2020), it is excellent for forecasting complex models. In order to reduce measurement error and eliminate collinearity, PLS was more appropriate than other SEM approaches for this study, which examined the causal relationships between factors of decent work environment, work engagement, job self-efficacy, and IWB. To evaluate potential correlations, PLS-SEM can be seen as being relatively comparable to multiple regression analysis (Hair et al., 2017). First, PLS-SEM made it possible to forecast the dependent variable.

Second, PLS-SEM easily combines reflecting and formative constructs, enabling the development of more complex models involving second-order constructs, referred to as higher-order constructs (HOC), of various measurement perspectives. The reflective formative HOC is used in this study because (1) the indicators to the dimensions were reflective because the dimensions cause them, and (2) each of the dimensions that lead to the second-order constructs of decent work environment adopted a formative measurement perspective. In other words, the second-order construct would be lacking if any of the dimensions were absent. The composite factoring technique used by PLS-SEM is thought to be appropriate for evaluating the model under inquiry. It was done in two steps in accordance with Anderson and Gerbing's (1988) two-step methodology. In order to determine the validity and reliability of the measuring model for the

reflective constructs, the first stage is examination. This entailed assessing the standards recommended by Hair et al. (2017), including convergent validity and discriminant validity. The formative constructs' structural model is studied in stage two, which also involved bootstrapping-based hypothesis testing.

Data preparation, outer model, and scale validation. When data is gathered through self-reporting in one environment, common method bias (CMB), as stated in the literature, may be present. According to Podsakoff et al. (2003), the single-factor test developed by Harman was used to examine the CMB problem. IBM SPSS Statistics 26 was utilized for the factor analysis. The first component's extraction sum of squared loadings had a variance of 30.63%, which is far less than the 50% level. It was unlikely that our data would have the CMB problem under the norms of Podsakoff et al. (2003). In PLS-SEM, relationships between measurement items and latent components are referred to as the outer model. Convergent validity and discriminant validity of the outer model are evaluated. The degree of similarity between indicators for a particular construct that is assumed to be related is tested using convergent validity (Hair et al., 2017). It is assessed by factor loadings, composite reliability, and average variance extracted (AVE) (Hair et al. 2017). Table 3 shows the reliability test and average variance extraction (AVE) results for the various construct items. If the AVE from the constructs is greater than 0.5, the reliability is greater than 0.7, and the standardized factor loadings of the constructs are higher than 0.5, then the convergent validity requirements are satisfied (Fornell and Larcker, 1981). Based on the results in Table 3, all constructs produced the acceptable outcomes recommended by Fornell and Larcker (1981).

The degree of discrimination between various latent construct criteria was investigated using discriminant validity. The heterotrait-monotrait ratio (HTMT), cross-loadings comparison, and the Fornell-Larcker criterion are all used. The discriminant validity criterion was satisfied if the AVE's square roots were greater than the latent constructs' correlation coefficients (Fornell and Larcker, 1981). Table 4 demonstrates the results' strong discriminant validity. Additionally, if a construct's indicator outer loadings exceed all its cross-loadings with other constructs, the discriminant validity is met (Hair et al., 2017). The results are shown in Table 5, and they met the minimum criteria that Hair et al. (2017) suggested.

Additionally, the HTMT of correlations based on the multitrait multimethod matrix was conducted to assess discriminant validity. If the HTMT value exceeds an HTMT value of 0.90, the discriminant validity requirement cannot be satisfied (Gold et al., 2001). The fact that all the values in Table 6 for each of the constructs are in the range of 0.336–0.870, satisfying the requirement of HTMT 0.90 as indicated by Gold et al. (2001), which should be less than 0.90, indicates that the discriminant validity has been established.

Finally, according to Hair et al. (2006), multicollinearity is not a serious issue if the value for VIF is below 5. Table 7 presents the VIF factors for the indicators in the study and reveals that the VIF for each of the indicators is below the recommended threshold, except for HC2, IWB7, and IWB8, which are dropped as a result of the further analysis.

Inner model and hypotheses testing. Following the assessment of the measurement model, the next step is the evaluation of the structural path for the evaluation of path coefficients (relationships amongst study constructs) and their statistical significance. H1 proposes that DW positively affects IWB. Table 8 shows that DW does not have a significant effect on IWB ($\beta = 0.052$, $t = 0.58$,

et al. (2016) and Schaufeli and Bakker (2010), work engagement refers to how employees feel about their relationship with their jobs. This could be enhanced by their job self-efficacy level. The higher their self-efficacy, the more engaged they will be. This provides the theoretical groundwork for connecting work engagement and job self-efficacy. On the other hand, the dimensions of decent work were found to impact one's self-efficacy. According to Xanthopoulou et al. (2009), self-efficacy, among other personal resources, was found to partially mediate the effect of job resources on work engagement. Therefore, based on the theoretical arguments and empirical evidence outlined above, we posited:

H7: Self-Efficacy mediate the relationship between decent work and work engagement for academic staff

Research methodology

Data collection and sampling. The present study adopted a quantitative and cross-sectional design to gather primary data from academic staff working in private and public universities in Egypt. One of the advantages of using quantitative research is its ability to capture vast amounts of data far quicker than other research methods (Saunders et al., 2007). In addition to that, the cross-sectional research design is a quick and economical way for researchers to collect data. Given the large population of academics and the need for timely and accurate data gathering, the anonymous questionnaire was distributed online using Google Forms and LinkedIn. Purposively non-probability sampling techniques was used to collect data from academic staff. The questionnaire was divided into five sections: section A: decent work, section B: work engagement, section C: IWB, section D: job self-efficacy, and finally section E: demographic characteristics.

Prior to the survey administration, the questionnaire was validated through an expert pre-test carried out through six personal interviews with academic experts in the field of management and economics. This step was important in order to assess the content validity of the items. While the study used tested scales and constructs to ensure reliability and validity, the pre-tests ensured that the meaning was well understood and usable among the target population. These interviews allowed the clarification of the survey items and the improvement of any potential problems in understanding the item. Minor adjustments resulted from specific suggestions. Furthermore, the researchers presented detailed information about the precautions taken to ensure the confidentiality of the respondents.

The academic staff were invited to participate in the survey during the time period of November 2022 to April 2023. After three reminders were sent to the participants, the researchers successfully collected 234 responses. A total of 234 responses were received; however, based upon a further examination of the data, we identified and eliminated 10 responses: those who are not working in the academic field (six), those who are not located in Egypt (four). Therefore, the results of this study are based on an analysis of 224 responses. The profile of respondents is summarized in Table 1.

Measurement Instruments. The scales used in this study were adopted from the literature based on the research objectives, research hypotheses, and operational definitions. The measurement items were developed in English, and four academic staff in the Faculty of Management Technology revised the questionnaire to make sure that the meaning was clear. Only two words were amended to make the sentences clearer. For the purpose of this study, 43 items were developed and designed on 7-point Likert-type rating scales to ease the respondents' choice.

Table 1 Demographic profiles of respondents.

Variables	Sample (n 224)	Percentages (%)
Gender		
Male	60	26.79
Female	164	73.21
Age		
21-26	64	28.5
27-32	53	23.66
33-38	33	14.73
39-44	32	14.29
45-50	28	12.50
50+	14	6.25
Education		
Bachelor	43	19.20
Masters	74	33.04
Doctorate	95	42.41
Others	12	5.36
Work Experience		
1 year or less	30	13.39
More than 1 year-5 years	63	28.13
6 years-10 years	36	16.07
Above 10 years	95	42.41
Position-Level		
Teaching Assistant	59	26.33
Assistant Lecturer	65	29.01
Lecturer	56	25
Associate Professor	28	12.5
Professor	13	7.13
Organization Type		
Private Higher- Education Institutions	178	79.46
Public Higher- Education Institutions	46	20.54
Workplace Location		
Cairo	197	87.95
Others	27	12.05

Predictor

Decent work: Respondents' perceptions of their decent work were measured using the decent work scale developed by Duffy et al. (2017). The scale is divided into five dimensions: safe working conditions, health care, adequate compensation, time and rest, and organizational values. Each of these dimensions is measured with three items, together providing the instrument of 15-items. Items are rated on a 7-point Likert scale ranging from 1 = "strongly disagree" to 7 = "strongly agree". Example items are: "I feel emotionally safe interacting with people at work" (safe working conditions), "I get good healthcare benefits from my job" (health care), "I am rewarded adequately for my work" (compensation), "I have free time during the work week" (time and rest) and "The values of my organization match my family values" (organizational values).

Mediators

Job self-efficacy: To measure respondent's self-efficacy, this study adopted the self-efficacy scale from the work of Schwarzer and Jerusalem (1995), which highlights one's ability and adaptability skillset during stressful events. The ten items are rated on a 7-point Likert scale ranging from 0 = "never" to 6 = "always-everyday". Example items are: "I can always manage to solve difficult problems at work if I try hard enough" and "If someone opposes me at work, I can find the means and ways to get what I want."

Work engagement: This study used the Utrecht Work Engagement Scale with nine items (UWES- 9) by Schaufeli and Bakker

of meaning and purpose in their work. It satisfies an individual's needs for survival, social connection, and self-determination, thus resulting in a sense of fulfillment (Duffy et al., 2016). Understanding people's perspectives on work is essential since these viewpoints might affect how their job satisfaction, psychological wellbeing, and self-determination can be fostered (Ferrari et al., 2008; Blustein, 2008). Previous studies found that organizations that make efforts towards their employees' welfare by improving their work environment will have better performance. In addition to that, it will positively shape their attitude and behavior towards their job (Osam et al., 2020). This highlights the importance of having a meaningful work environment that will enhance the worker's wellbeing and satisfaction.

First, the dimension of "adequate compensation" was found to act as a motivation for employees to display high performance (Anitha, 2014). Their level of engagement and self-determination will depend on how they perceive clear rewards and benefits (Kahn, 1990). Second, according to Dang and Chou (2019), external factors such as policies, processes, and the organizational structure of the workplace may also have an impact on self-efficacy. The self-efficacy of academic staff will increase through routine evaluation and development of the current working environment (Kowalski, 2003; Nootossana et al., 2021). Third, "time and rest" is another aspect of decent work that was found to benefit both the employee and the organization (Sonnentag et al., 2008). Maintaining a balance between one's professional and personal lives outside of work is another way to increase motivation. A healthy work-life balance helps employees feel energized and keep a positive attitude, which in turn stimulates and energizes them to remain engaged in their work (Niessen et al. 2018). Fourth, "interpersonal safe working conditions," as a dimension of "decent work," act as a safeguard for employees; thus, institutions need to ensure physical and emotional safety at the workplace (Garcia et al., 2004). Eftehadi and Karatepe (2019) suggest that job insecurity erodes self-efficacy and hinders employees' development. As a result, an organization that provides employees with safety and emotional support may witness higher employee engagement and well-being. Such actions by organizations also influence employees' attitudes towards their jobs and can enhance their job self-efficacy. Finally, "access to health care" was found to reduce employee stress and yield positive work outcomes (Knight et al., 2017). A number of studies have highlighted the negative consequences of inadequate physical and psychological working conditions on the physical and mental health of teachers (Bell and Liu, 2019; De Carlo et al., 2019); others have noted that teaching is a demanding profession (Addimando, 2019; Malinauskienė et al., 2005). Thus, the importance of good health care will enhance job self-efficacy. In light of the above, we propose the following hypothesis:

H5: DWE has a positive significant impact on job self-efficacy for academic staff

Job self-efficacy and work engagement. The relationship between job self-efficacy and work engagement can be explained within the Self-Determination Theory (SDT) by Deci and Ryan (1985). It is a macro-theory of human motivation that has been applied in several fields, such as education, organizations, healthcare, and others. The theory proposes two overarching forms of motivation, namely, intrinsic and extrinsic motivation. Intrinsic motivation refers to one's enjoyment while doing a certain activity or job (Deci et al., 2017). When someone is intrinsically motivated, the "rewards" come from the spontaneous feelings of pleasure and delight that are associated with the activity. However, extrinsically driven behavior entails engaging in an action to obtain a specific benefit, whether material or intangible (Deci et al., 2017). Based on this, the employees' performance, engagement, and well-being

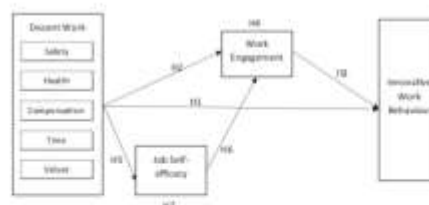


Fig. 1 Research Model. The direct and indirect relationships between decent work, innovative work behavior, job self-efficacy, and work engagement of academic staff in higher education institutions.

are affected by the type of motivation they have for their job activities (Fig. 1).

As a personal resource, self-efficacy is seen as one of the important antecedents of work engagement (Tims et al., 2011). In line with self-determination theory, self-efficacy is a psychological demand that people naturally have. The theory asserts that people's employment has given them the chance to show their competence, which is crucial for work engagement (Timms and Brough, 2013). Additionally, the Job Demands-Resources (JD-R) model identifies self-efficacy, self-esteem, and optimism as the three elements of personal resources that lead to positive human behaviors such as engagement and innovation (Bakker and Demerouti, 2017). High-self-efficacy individuals are more inclined to invest time, energy, and effort into their work, thus affecting their work engagement positively (Salanova et al. 2011). Due to the fact that it relates to human behavior and how people in real life examine things and make decisions using their emotions and cognitive associations, self-efficacy promotes work engagement. Previous research has demonstrated that people with high levels of self-efficacy are more likely to cope with difficult problems with greater effectiveness. They are also more likely to persist in achieving valued results, which leads to an internal sense of fulfillment in their work. For example, an Australian study of 515 teachers revealed that workplace buoyancy, which is the ability to deal with challenges and pressure in the workplace, predicted work-related engagement (Parker and Martin, 2009). In a similar vein, a study done by Wang et al. (2015) on 523 Canadian teachers demonstrated that individuals with higher self-efficacy levels in student engagement and class management were more satisfied with their job. According to Vera et al. (2014), Bakker et al. (2012), and Buric and Moe (2020), self-efficacy has been identified as a significant self-motivating mechanism that positively affects work engagement. Self-efficacy is crucial for teaching because the teacher wants to adopt the study method that best fits his/her behavior. In particular, when teachers understand how to manage and control the learning processes effectively and professionally, they start to add more value to their jobs (Bandura, 2000; Klassen and Chiu, 2010). In this same perspective, several empirical studies showed a positive and significant relationship between self-efficacy and work engagement (e.g., Del Llano et al., 2012; Sweetman and Luthans, 2010). Based on the aforementioned literature review on self-efficacy as an antecedent of work engagement, the following hypothesis is proposed:

H6: Job self-efficacy has a positive significant impact on work engagement for academic staff

Decent work, job Self-efficacy, and work engagement. The effect of decent work on work engagement can be better explained through the mediation role of job self-efficacy. According to Job

physicians. While Graça et al. (2021) have supported the same result depending on a sample of Portuguese faculty members. Faculty members, in particular, are believed to have a high degree of commitment to their work based on their anxiety about enhancing future generations' knowledge (Navajas-Romero et al., 2019). Kashyap et al. (2022) investigated the different dimensions of decent work and their impact on work engagement among Indian academics. This literature suggests that enjoying a DWE that fulfills secure working conditions, adequate working hours, family-match organization values, adequate compensation, and adequate health insurance would increase the degree to which people feel energized and enthusiastic regarding their work. Thus, the study proposed the following hypothesis:

H2: DWE has a positive significant impact on work engagement for academic staff

Relationship between work engagement and IWB. Prior studies (Rodwell et al., 2017; Aboramadan Abbas et al., 2020; Agarwal et al., 2012; Alfes et al., 2013; Haynie et al., 2016; Rich et al., 2010) indicate that work engagement was found to be a significant predictor of work performance and extra-role behaviors, such as innovative and citizenship behaviors. Additionally, according to Sundaray (2011), engaged individuals are more likely to be passionate about their profession and to be immersed in it to the point where they are innovative at work. Such an argument is also supported by several other scholars (i.e., Agarwal, 2014), who suggest a favorable association between work engagement and innovative behavior.

In higher education institutions, it can be argued that academic staff who display higher levels of work engagement are more likely to have positive exchanges with their institutions. Under these circumstances, work engagement may yield positive effects on other work-related outcomes. Work engagement can motivate academics to participate not only in innovative practices but also to assist other staff to decode the sense of IWBs for institutional and community sustainability. Based on the above discussion, the following hypothesis is proposed:

H3: Work engagement has a positive significant impact on IWB for academic staff

Decent work and IWB: mediating role of work engagement. Decent work, work engagement, and innovative work behavior are all paths for expanding productivity, which in turn would create various benefits for both organizations and employees (Hanaysha, 2016; Markos and Sridevi, 2010; Samra et al., 2020; Sonavira, 1999; Sengenberger, 2001). As presented earlier, a number of studies have investigated the relationship between these variables. In addition, some literature suggests the mediating role of work engagement in relation to IWB. Koroglu and Özmen (2022) analyzed the role of work engagement based on the JD-R model and highlighted its mediating role between antecedent variables of psychological well-being, interpersonal conflict, and perceived organizational support. While Kundu et al. (2021) suggested a mediating role between job clarity and IWB. Whereas Xu et al. (2022) proposed that decent work would encourage IWB through work engagement. A study done on Vietnamese teachers found that those who were overloaded and worked extra hours were less innovative in their teaching methods (Pham-Thai et al., 2018). Another study on Chinese teachers found that those who were not well paid were not able to work well, affecting their well-being (Minghui et al., 2018). Moreover, a study done on Swiss teachers found that favorable working conditions resulted in high levels of work engagement (Addimando, 2019). Decent work is about having a safe, fair, secure, peaceful, and productive working environment, which would create a positive working atmosphere and a feeling of dedication. This would, in turn, allow for

innovation at work. This study attempts to validate this belief and test the following hypothesis for academic staff.

H4: Work engagement mediate the relationship between decent work and IWB for academic staff

Decent work, job self-efficacy, and work engagement: direct and indirect relations

Job self-efficacy. Job self-efficacy is defined as a person's confidence about his/her ability to mobilize the motivation, cognitive resources, and actions needed to perform a specific task (Bozeman et al., 2001). It is the individual's judgment of their capabilities to organize and accomplish actions necessary to achieve designated performance (Bandura, 1977). Even though other factors may act as catalysts and motivators in people's attempts to achieve desired outcomes, they are grounded in the fundamental conviction that one has the ability to cause effects through one's own action (Bandura, 2001). Self-efficacy, which is considered a personal trait, is grounded in social cognitive theory, highlighting the development and use of human agency. The foundation of the idea of human agency is based on the belief that individuals can have some control over their lives (Bandura, 2006). The theory assumes that self-efficacy determines various job-related outcomes and performance (Bandura, 1977). A person's motivation level, ability to take on challenges, effort, determination in the face of difficulties, emotional reaction, and perspectives on success and failure all play a role in how strong their sense of self-efficacy is.

Self-efficacy can be understood in three different ways: general self-efficacy, task-specific self-efficacy, and domain-specific self-efficacy (Khalil and Siddiqui, 2019). Domain-specific self-efficacy, as opposed to general self-efficacy, can more accurately predict people's cognitive capacities and behaviors in particular domains (Grether et al., 2018). Thus, there has been an increasing interest in studying specific domains such as occupational self-efficacy (Van Hootegem et al., 2021). According to Schyns and Collani (2002), occupational self-efficacy is an aspect of the workplace domain and is described as an employee's confidence in their ability to successfully complete their educational needs and carry out their job duties.

It was suggested that mastery, social learning, social persuasion and emotional and physical states are essential in the development of self-efficacy, with mastery being the most effective development factor, and social persuasion being the most effective in undermining self-efficacy (Bandura, 1977). As a result, the individual's ability to deal with challenging circumstances while assisting them in achieving personal mastery depends greatly on self-efficacy (Markman et al., 2002). Various studies have confirmed that having high self-efficacy may tend to increase workplace well-being (Cakar, 2012). Individuals with high self-efficacy are found to be more productive when faced with work challenges.

The importance of self-efficacy theory in explaining the capabilities and effectiveness of teaching has gained increasing attention. According to Tschannen-Moran and Hoy (2001), teacher self-efficacy has been conceptualized as a multidimensional phenomenon across a number of dimensions. It highlights the teacher's beliefs and confidence in their capacity to run classes, engage students, and employ successful instructional techniques, thus teaching spontaneously. Instructors with high job self-efficacy levels engage in the teaching and learning process. By contrast, those with low self-efficacy levels may easily feel demotivated, thus affecting their work engagement (Chou and Wang, 2000).

Decent work and self-efficacy. "Decent work" can be viewed as an important job resource that gives each employee a personal sense

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Author contributions

RIH, HA, and HG conceptualized the study and developed the methodology; RIH, HA, and HG collected the data for the study; HA analyzed data; RIH, HA, and HG wrote the original draft; RIH, HA, and HG reviewed and edited the final draft; All authors read and

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Ethical approval

The questionnaire and methodology for this study was approved by the Faculty of Management Technology Research committee at the German University in Cairo (Date: November 2023).

Informed consent

We obtained informed consent from the participants by enclosing a confirmation question for the consent statement in the research questionnaire.

Competing interests

Hetutallah Ghoneim was a member of the Editorial Board of this journal at the time of acceptance for publication. The manuscript was assessed in line with the journal's standard editorial processes, including its policy on competing interests.

Additional information

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Correspondence and requests for materials should be addressed to Rasha S. Hassan.

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