Appendix 1: Professional and personal characteristics of study respondents (n=1,310)

Variable	Category	Frequency (n)	Percentage (%)
Staff Position	Assistant Nurse	30	2.4
	Nurse	697	55.0
	Head nurse/Nurse manager	27	2.1
	Unit Assistant/Clerk	4	0.3
	Attending/Staff Physician	227	17.9
	Resident Physician/Physician in training	41	3.2
	Pharmacist	21	1.7
	Dietician	10	0.8
	Respiratory Therapist	3	0.2
	Physical, Occupational, or Speech Therapist	18	1.4
	Technician	176	13.9
	Management	13	1.0
Gender	Male	479	37.2
	Female	808	62.8
Direct Patient Contact	Yes	1112	88.5
	No	144	11.5

Appendix 2:
Conclusion from the solutions with different numbers of the factors (12- 9-8-7-10-11)

| Step	Number of extracted factors	Number of the satisfactory factors	Total variance explained by extracted factors	Items not loading	Items which have low communalities (<0.3)	Items which have low loadings (<0.4)
1	**12**	**8**	**45**	**A5- A11- A15-A17**	**A5-A7-A9-A10-A11-A15-A17**	**A13- B3-D9- A6-C1-C5- A10- A7-D11- A18- C3**
4	9	7	41.0	A5 - A9- A15-A17-A7	A2-A5-A7-A9-A10-A15-A17	D9- B3- C5- A10-A2-A11
5	8	6	39.2	A5-A15-A17-A9	A2 - A5- A7- A9-A10- A11-A15-A17	A13-D9- C5-A6-B3- A10-A7- A2-A11
6	7	5	37.4	A11-A5-A7-A9-A10- A15- A17	A2 - A5- A7- A9-A10 - A11- A15-A17- B3 -C3-D6	C3-A18-A13- C1-A2- B4-B3-A10
7	11	9	43.8	A5-A7- A17	A5- A7- A9- A10-A11- A15- A17-D6	B3-D9- A6- A10-A9-A13- C5- A7-A11
8	10	9	42.6	A5-A7- A17 A9	A5 - A7- A9- A10 - A11- A15- A17-D6	A13-D9- C5-A10- A11

An investigation of five possible solutions was undertaken in steps 4-8 to explore the number of factors that could be extracted. The initial solution with 12 factors demonstrates that 8 factors could fit the 42 safety climate items. The 9 Factors solution demonstrates that 7 factors could fit the 42 safety climate items. The 8 Factors solution demonstrates that 6 factors could fit the 42 safety climate items. The 11 Factors solution demonstrates that 9 factors could fit the 42 safety climate items. The 10 Factors solution demonstrates that 9 factors fit the 42 safety climate items. The summary results of the six solutions including the initial solution are displayed in the above table. The comparison of the different solutions suggests that the 8 Factors solution is most

appropriate (four items without loadings, the initial solution with 12 factors indicates that 8 factors is satisfactory, only one factor is without strongly loaded items).

The optimal model is an Eight Factor model with 22 safety climate questionnaire items (20 items were excluded) that explains about 50.2% of the total variance. All factor loadings are within the range of 0.426-0.866. Five factors (Factor 2, Factor 3, Factor 4, Factor 6, and Factor 7) have three or more items with loadings >0.40. Factor 1, Factor 5, and Factor 8 have two items with very high loading >0.50 and acceptable theoretical basis. There are no cross loaded items and there are no items with loadings <0.40 in the solution. The solution is essentially consistent with the theoretical pattern. All factors consist of two to four items and all items within each factor are theoretically related. Only D6 moved from "Teamwork across units" into "Handoffs and Transitions." It should be noted that "Overall perceptions of patient safety", "Organisational learning—Continuous improvement", "Staffing" and "Feedback and communication about error" have no items in the final 8 factor solution.

In summary, the optimal Eight Factor model shows good psychometric properties with no cross loaded items and there are no items with loadings <0.40 in the solution. All factors consist of two to four items and all items within each factor are theoretically related. The optimal model of our study was confirmed by using CFA.

Appendix 3:
HSOPSC Eight factor model in Kuwait and individual item standardised path coefficients
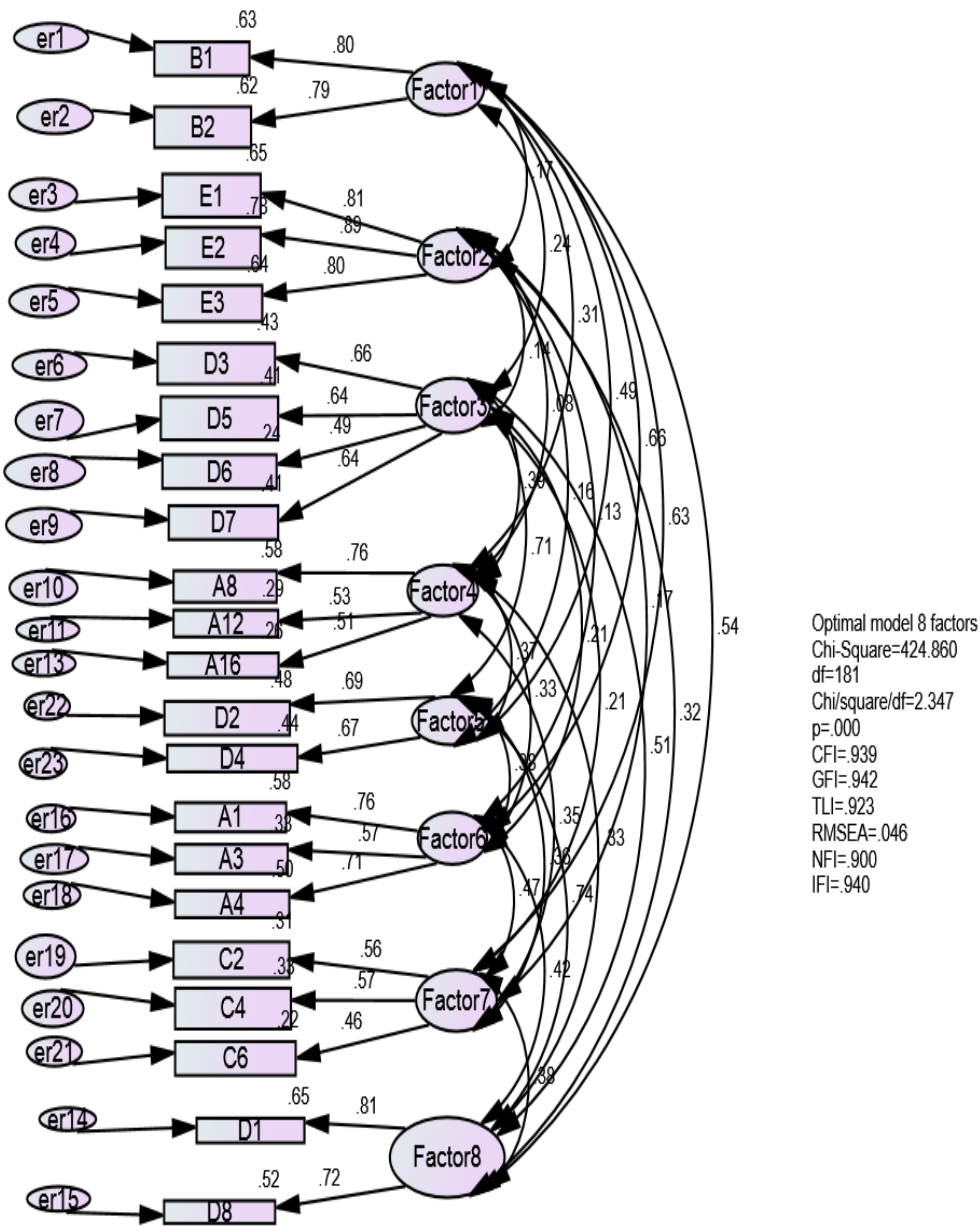
Appendix 4: Inter-correlations between Eight factors (scales)

N	Scales	1	2	3	4	5	6	7
1	Supervisor/Manager Expectations and Actions Promoting Patient Safety	-						
2	Frequency of Events Reported	0,155***						
3	Handoffs and Transitions	0,286***	0,183***					
4	Non-punitive Response to Errors	0,339***	0,133***	0,371***				
5	Teamwork Across Units	0,51***	0,228***	0,64***	0,435***			
6	Teamwork Within Units	0,664***	0,105**	0,236***	0,356***	0,392***		
7	Communication Openness	0,614***	0,088*	0,259***	0,431***	0,404***	0,517***	
8	Management Support for Patient Safety	0,519***	0,311***	0,531***	0,322***	0,722***	0,432***	0,353***

*** p<0.001, ** p<0.01, *p<0.05

Appendix 5: Dimensions of HSOPSC for USA (US), Kuwait (KWT), Saudi Arabia (SA), Palestine (PAL), England (ENG), Scotland (SCO), Netherlands (NL), Turkey (TUR) and Switzerland (Swiss) factor models

HSOPSC Dimensions	US [59]	KWT	SA [60]	PAL [61]	ENG [31]	SCO [78]	NL [30]	TUR [26]	SWISS [27]
Supervisor/manager expectations and actions promoting safety	√	√	√	√	√	√	-	-	√
Organisational learning— continuous improvement	√	-	√	√	-	√	√	√	√ With Teamwork within units
Teamwork within hospital units	√	√	√	√	√	√	√	√	-
Communication openness	√	√	√	-	√	-	√	√	-
Feedback and communication about error	√	-	-	√ With Communication Openness	√	√ With Communication Openness	√ With Organisational learning— continuous improvement	√ With Supervisor expectations and actions promoting patient safety	√ With Communication Openness
Non-punitive response to error	√	√	√	√	√	√	√	√	√
Staffing	√	-	√	√	-	-	√	√	-
Hospital management support for patient safety	√	√	-	√	-	√	√	√ With Teamwork across units	√

HSOPSC Dimensions	US 59	KWT	SA 60	PAL 61	ENG 31	SCO 78	NL 30	TUR 26	SWISS 27
Teamwork across hospital units	√	√	-	√	√	√	√	-	-
Hospital handoffs and transitions	√	√	√	√	√	√	√	√	√ With Teamwork across units
Frequency of incident reporting	√	√	√	√	√	√	√	√	√
Overall perceptions of patient safety	√	-	-	√	√ With Staffing	√ With Staffing	√	√	√ With Staffing
Number of optimal model factors	12	8	8	11	9	10	11	10	8

Appendix 6: Item composition of dimensions of HSOPSC for USA (US), Kuwait (KWT), Saudi Arabia (SA), England (ENG), Palestine (PAL), Switzerland (Swiss), Netherlands (NL), and Turkey (TUR) factor models

HSOPSC Factors	USA 59	Kuwait	SA 60	ENG 31	PAL 61	SWISS 27	NL 30	TUR 26
Supervisor/Manager Expectations and Actions Promoting Patient Safety	B1-B2-B3-B4	B1-B2	B1-B2	B1-B2	B1-B2-B3-B4	B1-B2-B3-B4	B1-B2-B3-B4	‡
Frequency of Events Reported	E1-E2-E3*	E1-E2-E3	E1-E2-E3	E1-E2-E3	E1-E2-E3	E1-E2-E3	E1-E2-E3	E1-E2-E3
Handoffs and Transitions	D3-D5-D7-D11*	D3-D5-D7-D6**	D5- D7-D11-D6**	D3-D5-D7-D11	D3-D5-D7-D11	‡	D5 -D11	D3-D5-D7-D11
Non-punitive Response to Errors	A8-A12-A16	A8-A12-A16	A8-A12-A16	A8-A16	A8-A12-A16	A8-A12-A16	A8-A12-A16	A8-A12-A16
Teamwork Across Units	D2-D4-D6-D10*	D2-D4	-	D2-D4-D6-D10	D2-D4-D6-D10	D2-D4-D6-D10-D3**-D7**	D2-D4-D10-D3**-D7**	‡
Teamwork Within Units	A1-A3-A4-A11	A1-A3-A4	A1-A3-A4	A1-A3-A4	A1-A3-A4-A11	A1-A3-A4-A6-A9-A13‡	A1-A3-A4-A11	A1-A3-A4-A11
Communication Openness	C2-C4-C6	C2-C4-C6	C2-C4	C2-C4-C6	C2-C4-C3-C5‡	‡	C2-C4-C6	C2-C4-C6

HSOPSC Factors	USA [59]	Kuwait	SA [60]	ENG [31]	PAL [61]	SWISS [27]	NL [30]	TUR [26]
Management Support for Patient Safety	D1-D8-D9*	D1-D8	-	-	D1-D8-D9	D1-D8-D9	D1-D8-D9	D1-D8-D9
Organisational learning—continuous improvement	A6-A9-A13	-	A6-A9-A13-D8**	-	A6-A9-A13	‡	‡	A6-A9-A13
Feedback and communication about error	C1-C3-C5	-	-	C1-C3-C5	‡	C1-C3-C5-C2-C4-C6‡	C1-C3-C5 A6-A9-A13	C1-C3-C5-B1-B2-B3-B4‡
Staffing	A2-A5-A7-A14	-	A5-A7	A2-A14-A10-A17‡	A2-A5-A14	A2-A5-A14 -A10-A17-A18‡	A2-A5-A7	A2-A5-A7-A14
Overall perceptions of safety	A10-A15-A17-A18	-	-	‡	A15-A17-A18	‡	A10-A17-A18-A14**	A10-A15-A17-A18
No of factors	12	8	8	9	11	8	11	10

*For comparison reasons, items with the letter F have been changed to letter D and items with the letter D have been changed to letter E as the modified version used in our study, ‡ denotes a merged dimension, ** denotes a moved item from a different dimension