A_55

Risk factors for cigarette smoking initiation among Jordanian adolescents:

A longitudinal analysis, 2008-2011

Theory and preliminary findings

Background

- Reduced smoking initiation in many developed nations
- Escalation in many developing nations
- Investigation of particular risk factors warranted

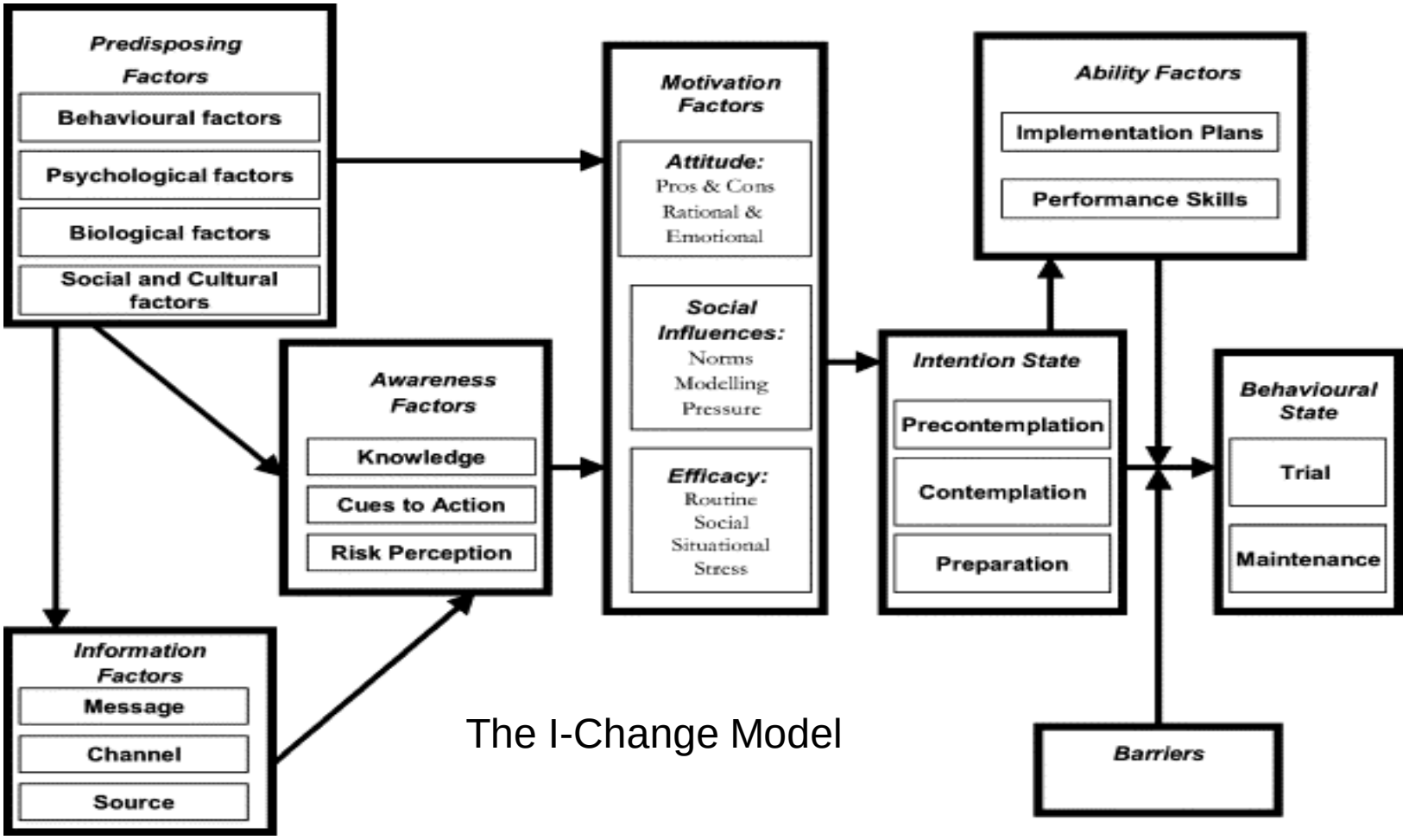
Objective

- This study aims to identify risk factors for cigarette smoking initiation among a cohort of Jordanian students 13 years old at baseline (2008).
- Important because waterpipe smoking behaviors and beliefs are measured

Methods

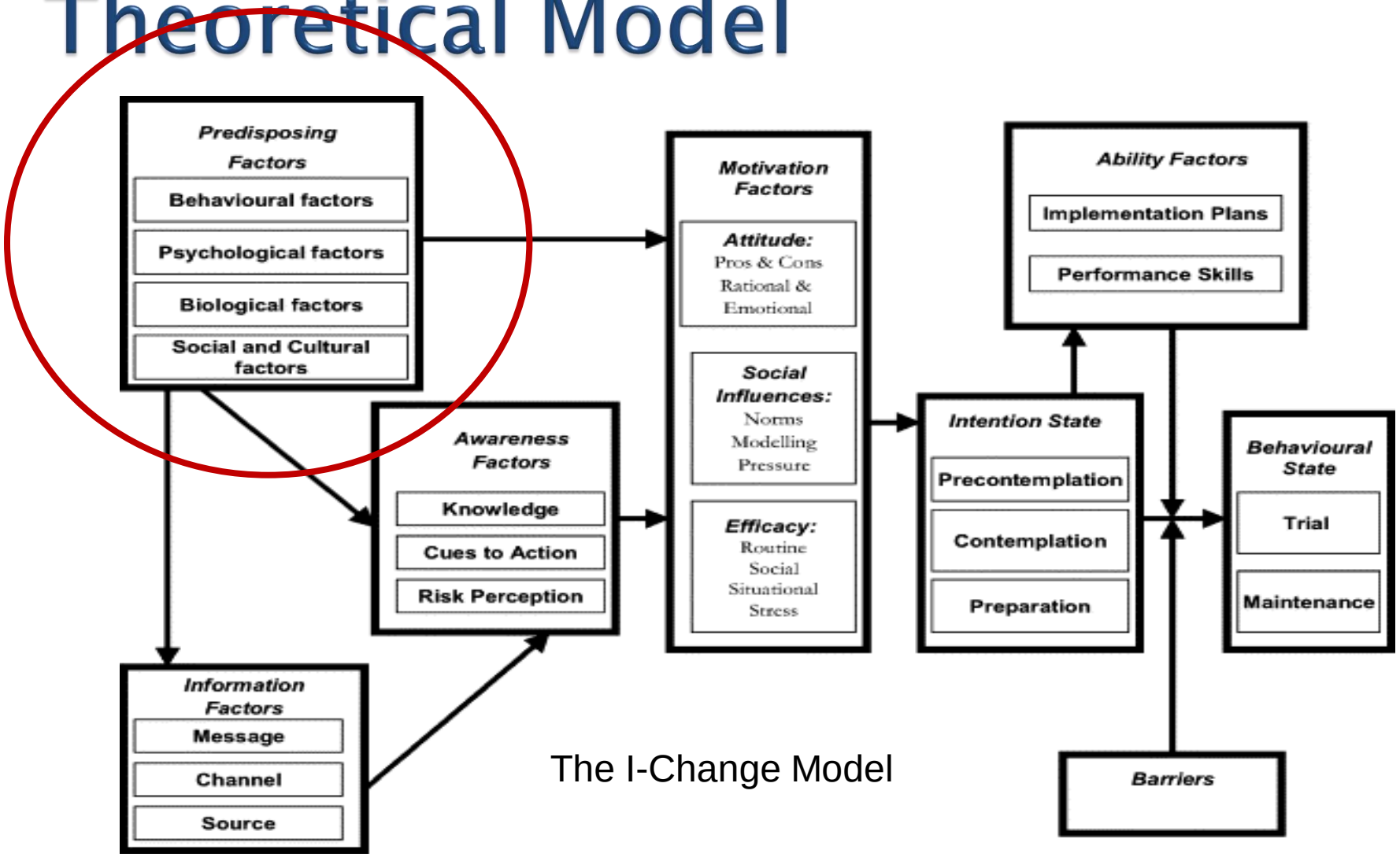
- School-based longitudinal study in Irbid
- Cluster random sample of schools chosen with probability proportional to size
- Schools stratified by male/female/mixed and private/public
- All 7th graders in 19 selected schools (out of 60 total) invited to participate
  - 95% (N=1,781 students) enrolled into the study
- Participants surveyed annually for 4 years
  - 83% (N=1,482) measured at all 4 time points

Theoretical Model



The I-Change Model

Theoretical Model



The I-Change Model

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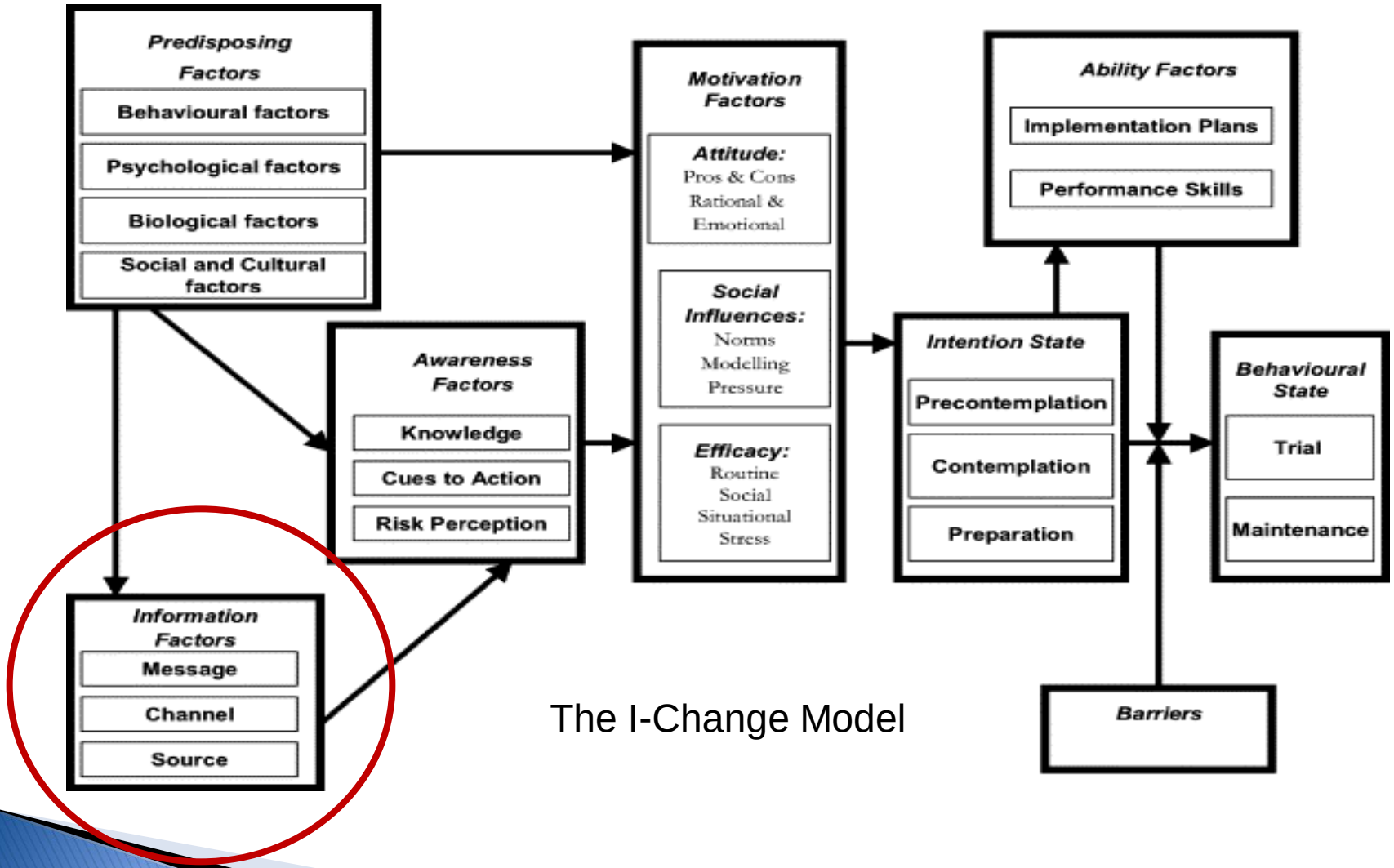

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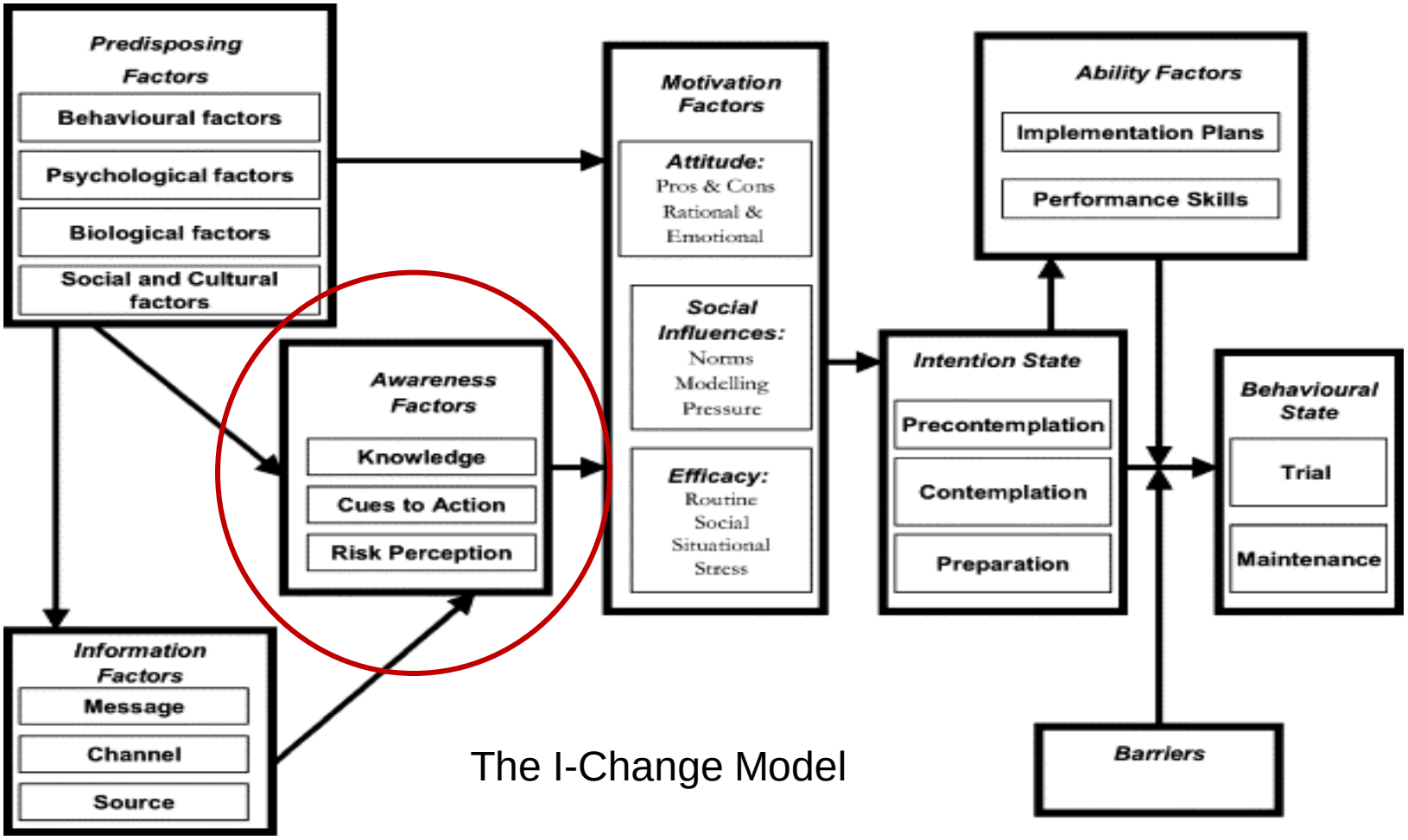

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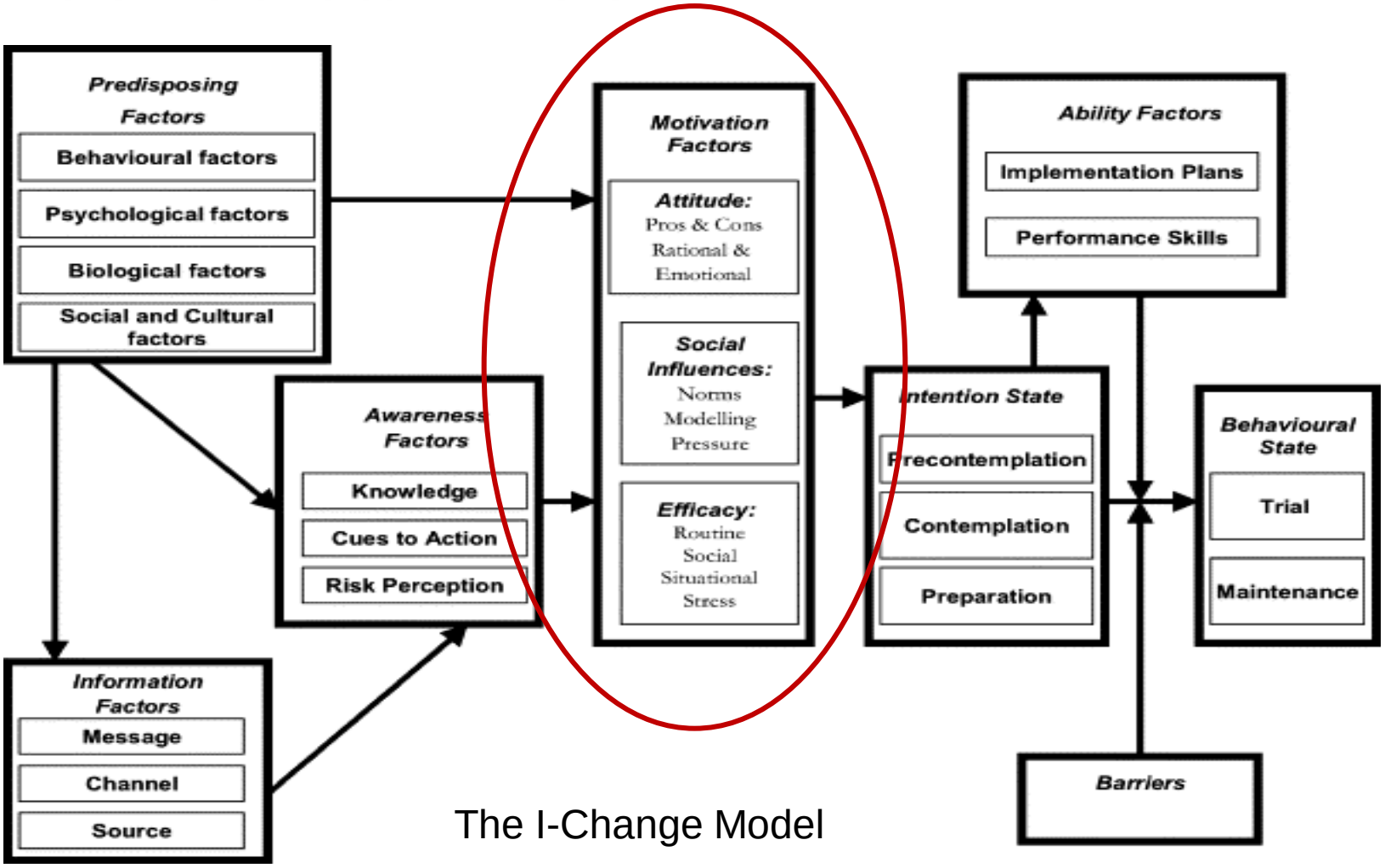

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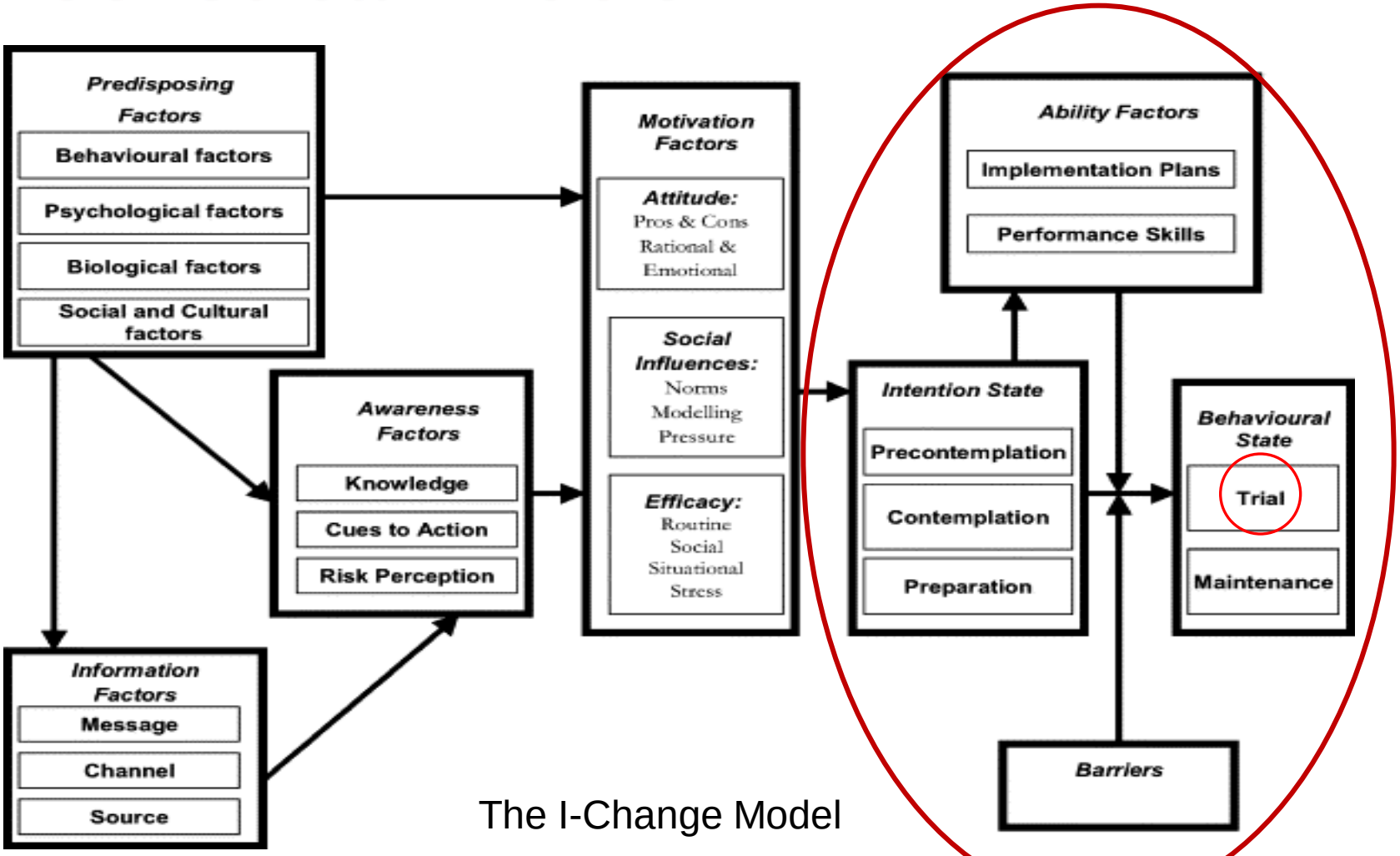
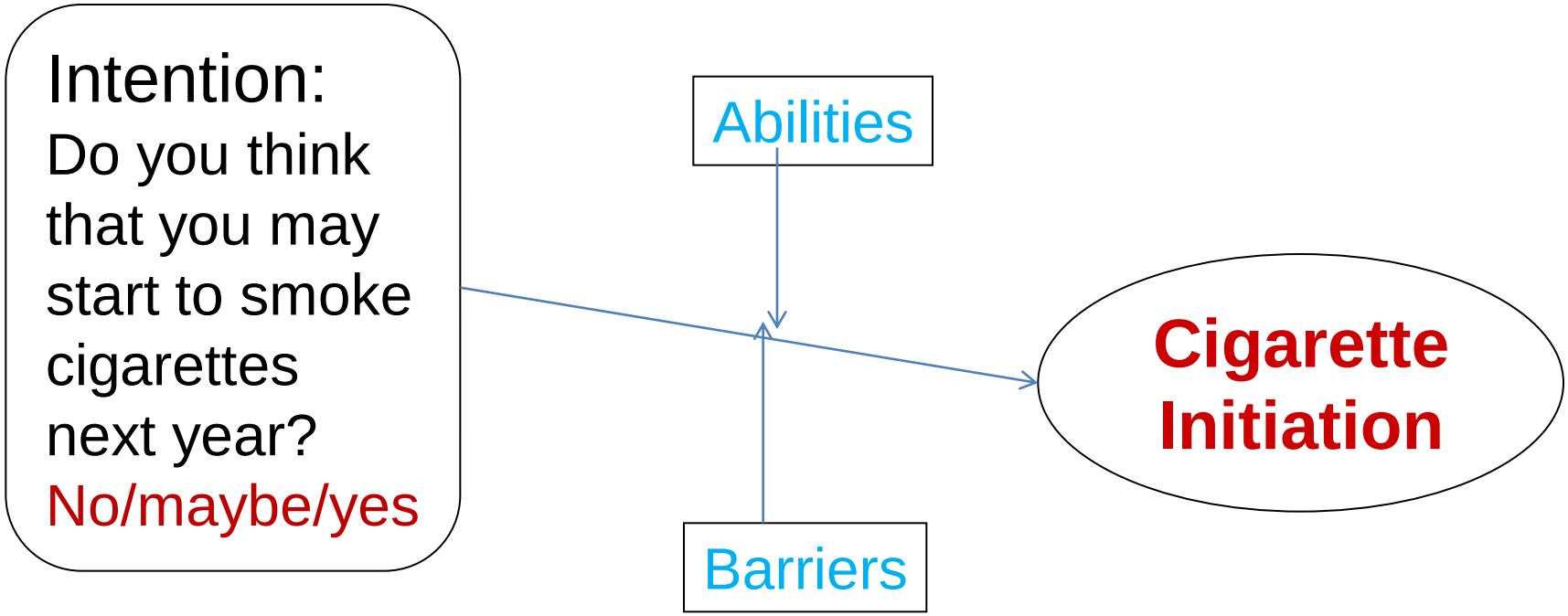


The I-Change Model

Intention State & Behavior State
Including abilities and barriers



Preliminary Analyses / Data Exploration

- Generalized Estimating Equations (GEE) to produce odds ratios (OR) and 95% confidence intervals (CI) to identify significant risk factors associated univariately with cigarette smoking initiation among cigarette naïve students

Baseline Characteristics – Cigarette Naïve participants

- 1,454 non smokers at baseline
  - 82% of sample
  - 784 female (54%)
- 60% age 13
  - 35% ages 11-12; 5% ages 14-15
- Average amount of pocket money .25-.50 JD
- 50% reported no parental smoking
- 22% reported having smoked waterpipe (even a puff or two)
- 96% said they would “absolutely not” smoke a cigarette if offered one by a friend.

Preliminary Results – Initiation

Cigarette initiation among cigarette naïve student age 13 at baseline from 2008-2011, Irbid, Jordan

	Initiation at year 1 N(%)	Initiation at year 2 N(%)	Initiation at year 3 N(%)
Girls N	784	713	581
Cigarette Initiated	71(9.1)	72(10.1)	60(9.4)
Boys N	670	572	444
Cigarette Initiated	98(14.6)	128(22.4)	66(14.9)

Preliminary Results – Predisposing Factors

	Girls		Boys	
Family Size	OR (95% CI)	P value	OR (95% CI)	P value
<8	0.83 (0.59 ,1.15)	0.2606	1.63 (1.15 ,2.30)	0.0062
>=8	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.
No of rooms				
1-2	0.88 (0.35 ,2.23)	0.9932	0.86 (0.36 ,2.05)	0.0103
3-4	1.00 (0.60 ,1.65)	.	1.95 (1.25 ,3.04)	.
5-6	0.98 (0.59 ,1.63)	.	1.77 (1.10 ,2.86)	.
7 +	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.

Preliminary Results – Information Factors

BOYS media pro	OR (95% CI)	P value
Yes	1.31 (0.95 ,1.79)	0.0990
No	1.00 (1.00 ,1.00)	.
Media warning		
Yes	0.89 (0.64 ,1.25)	0.5101
No	1.00 (1.00 ,1.00)	.
GIRLS media pro		
Yes	1.12 (0.81 ,1.57)	0.4902
No	1.00 (1.00 ,1.00)	.
Media warning		
Yes	0.89 (0.60 ,1.35)	0.6013
No	1.00 (1.00 ,1.00)	.

Preliminary Results – Awareness Factors

Health belief	Boys OR (95%f CI)		Girls OR (95% CI)	
No	0.57 (0.37 ,0.88)	0.0051	0.67 (0.33 ,1.24)	0.1496
Yes	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.
Dangers				
Yes	0.58 (0.40 ,0.84)	0.0078	0.66 (0.45 ,0.98)	0.0566
No	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.

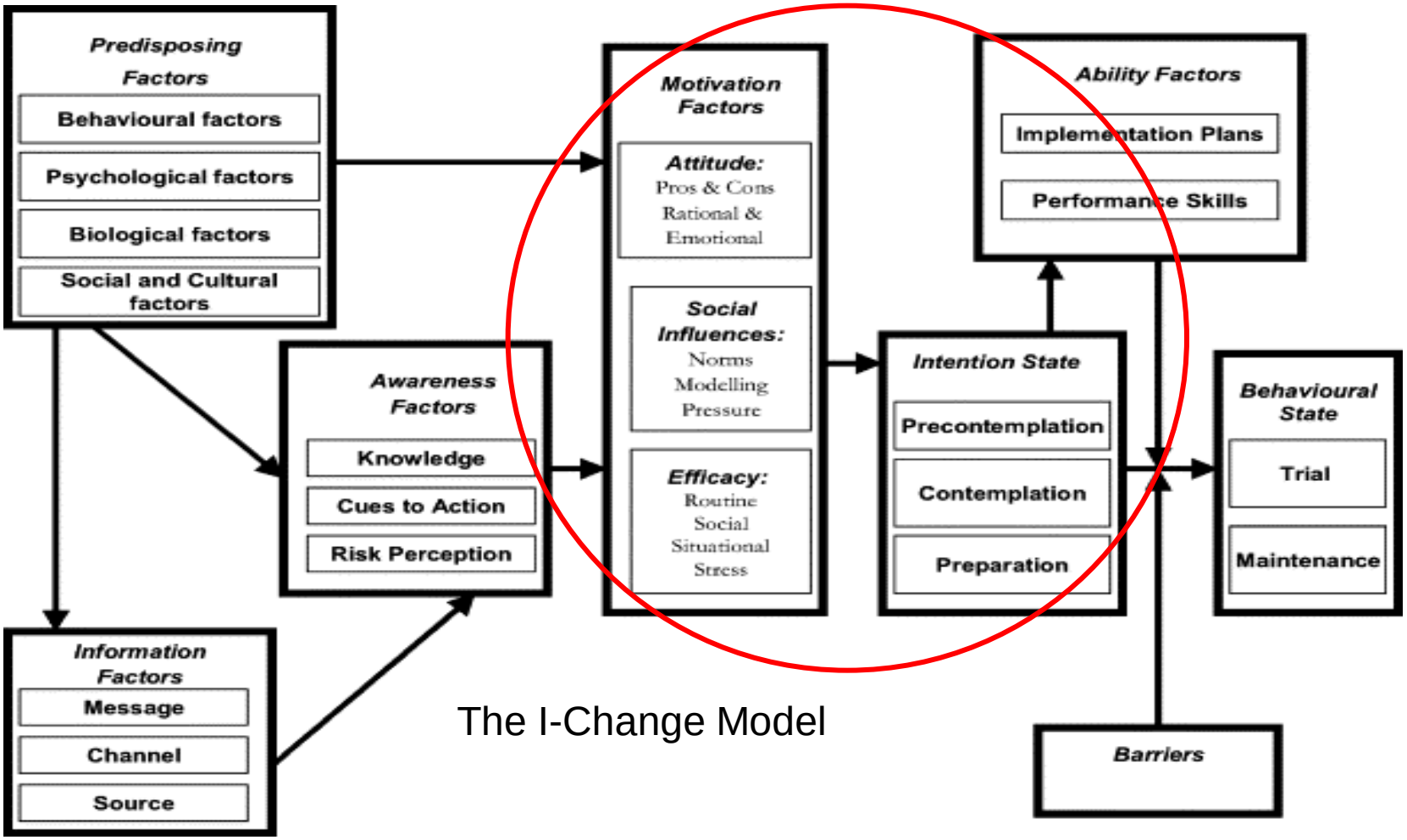
Preliminary Results – Motivation Factors

Smoke from friends	BOYS		GIRLS	
Absolutely not	0.03 (0.01 ,0.06)	<.0001	0.08 (0.03 ,0.22)	<.0001
Maybe	0.45 (0.23 ,0.87)	.	0.88 (0.31 ,2.48)	.
Yes, of course	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.

Preliminary Results – Intention State Factors

	Boys		Girls	
Start belief	OR (95% CI)	P value	OR (95% CI)	P value
Absolutely not	0.22 (0.11 ,0.42)	<.0001	0.38 (0.14 ,1.04)	0.0021
Maybe	0.45 (0.21 ,0.93)	.	0.99 (0.33 ,2.93)	.
Yes, of course	1.00 (1.00 ,1.00)	.	1.00 (1.00 ,1.00)	.

Theoretical Model



The I-Change Model

Going forward: Structural Equation Modeling

- Variables to be included in the full model
- SES (latent)
- Behavioral/Social norms (latent)
- Attitudes (latent)
- Self Efficacy
- Intention
- Then do it all over again for waterpipe smoking initiation. ☺

Summary of preliminary findings

- Initiation of about 9% each year for girls and 16% each year for boys.
- Lower SES associated with initiation for boys.
- Media messages appear to not have an impact on cigarette smoking initiation for boys nor girls.
- Smoking warnings from family members is protective for both boys and girls.
- Self efficacy, behavior modeling and behavioral intention are associated with smoking initiation.

Acknowledgments

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Thank You