



PREDICTIVE VALUE OF READINESS, IMPORTANCE, AND CONFIDENCE IN ABILITY TO CHANGE DRINKING AND SMOKING

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Background

- Counseling and brief interventions have been developed to address health behaviors such as unhealthy alcohol use and smoking
- Within motivational intervention paradigms, clinicians are encouraged to assess clients' motivation toward changing these behaviors

Background

- Readiness to change, importance of changing and confidence in ability to change are some of the various behavior change constructs that have been explored
- Shifts in these dimensions are often considered intermediate goals on the way to achieving decreases in consumption

Background

- In addition to being useful facilitators during clinical encounters, readiness, importance and confidence may have predictive value for future behavior change
- Some may play a more prominent role as predictors of future change than others
 - It is also possible that these dimensions will consist of substance-specific characteristics
 - i.e. readiness may be more important in facilitating tobacco use changes than in effecting alcohol use changes (or vice-versa)

Background

- If so, this could help guide clinicians when choosing which of these dimensions to prioritize and assess appropriately

Objective

- Therefore, we studied
 - Readiness to change
 - Importance of changing
 - Confidence in ability to change
- in order to predict risk status six months after baseline for drinking and smoking among 20-year-old Swiss young men.

Methods

- The sample was drawn from a large prospective cohort of 20-year-old men attending the army recruitment center in Lausanne, Switzerland
- Subjects participated in a randomized controlled trial of the impact of a multi-substance brief motivational intervention

Methods

- Within the present study, only those individuals who had unhealthy alcohol use or smoked were included.
- Subjects were eligible if they reported
 - Drinking >21 drinks per week, or >1 episode per month with 6 or more drinks/occasion (one drink = 10g of ethanol) OR
 - Smoking one or more cigarettes per day.

Methods

- Subjects were assessed on each of the three behavior change constructs using visual analog scales ranging from 1 to 10 for alcohol use and for smoking (total of 6 scales)
- Answers were later recoded into three categories: low (1-4), medium (5-7) and high (8-10)

Methods: outcomes

- At six months, subjects were classified as having unhealthy alcohol use if they reported
 - Drinking >21 drinks per week OR
 - Having >1 episode per month with 6 or more drinks per occasion
- They were classified as smokers if they reported smoking at least one cigarette per day

Methods

- Analyses were conducted separately for subjects with unhealthy alcohol use and for those who smoked daily
- Logistic regressions were used to assess the relationship between each behavior change construct and subsequent unhealthy substance use at the six-month follow-up

Methods

- Analyses conducted on subjects with unhealthy alcohol use were adjusted for the presence of smoking risk status at baseline
- Analyses for subjects who smoked were adjusted for the presence of unhealthy alcohol use at baseline
- All of the models were adjusted for the receipt of brief intervention

Results

- Of the 853 potential subjects 577 were included because they reported unhealthy alcohol use and/or smoking
- There were
 - 261 with unhealthy alcohol use only
 - 102 with smoking only
 - 214 with unhealthy alcohol use and smoking

Results: baseline characteristics

	Subjects with unhealthy alcohol use (n=475)	Subjects with smoking (n=316)
Age, mean (SD)	20.0 (1.2)	20.1 (1.2)
Unhealthy alcohol use, n (%)		214 (68%)
Smoking, n (%)	214 (45%)	
Number of drinks per week, mean (SD)	14.2 (15.7)	11.7 (14.4)
Number of binge drinking episodes per month, mean (SD)	4.9 (4.0)	3.8 (4.5)
Number of cigarettes per smoking day, mean (SD)	6.9 (8.1)	13.0 (6.9)
Education level, obligatory school only, n (%)	194 (41%)	138 (44%)
<i>Occupation:</i>		
In training, n (%)	340 (72%)	211 (67%)
Employed, n (%)	102 (21%)	76 (24%)
Inactive, n (%)	33 (7%)	29 (9%)

Results

- Among the 475 subjects reporting unhealthy alcohol use at baseline
 - Mean (SD) readiness, importance and confidence to change drinking scores were 4.0 (3.1), 2.8 (2.2) and 7.2 (3.0), respectively
 - The repartition into low, medium and high categories was:
 - 62% / 20% / 18% for readiness
 - 82% / 12% / 6% for importance
 - 21% / 21% / 58% for confidence
- At six months, 108 (29%) of the 377 who completed the follow-up assessment reported no unhealthy alcohol use

Results

- Among the 316 smokers at baseline
 - Mean readiness, importance and confidence to change smoking scores were 4.6 (2.6), 5.3 (2.6) and 5.9 (2.6), respectively
 - The repartition between low, medium and high was
 - 54% / 30% / 16% for readiness
 - 42% / 34% / 24% for importance
 - 30% / 39% / 31% for confidence
- Of the 255 subjects who completed the follow-up assessment at six months, 33 (13%) reported that they no longer smoked daily

Association between readiness, importance and confidence and favorable outcomes at six months:

- High confidence levels were associated with subsequent changes in drinking and smoking risk status

	Subjects with unhealthy alcohol use Separate logistic regression models (one model for each construct), AOR (95%CI)*	Subjects with smoking Separate logistic regression models (one model for each construct), AOR (95%CI)*
Readiness (reference group: low)	Model 1	Model 1
Medium	1.26 (0.71, 2.22)	2.05 (0.89, 4.70)
High	1.42 (0.78, 2.58)	2.07 (0.76, 5.68)
Importance (reference group: low)	Model 2	Model 2
Medium	0.91 (0.45, 1.84)	1.41 (0.58, 3.43)
High	2.94 (1.15, 7.50)	2.10 (0.83, 5.29)
Confidence (reference group: low)	Model 3	Model 3
Medium	2.16 (0.97, 4.78)	2.18 (0.74, 6.45)
High	2.88 (1.46, 5.68)	3.29 (1.12, 9.62)

Association between readiness, importance and confidence and favorable outcomes at six months:

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The magnitudes of association were similar for both behaviors: Subjects who had high confidence in their ability to change were about 3 times more likely to no longer report an unhealthy behavior than were subjects with low confidence levels

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Medium	2.16 (0.97, 4.78)	2.18 (0.74, 6.45)
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- Results were mixed for importance of changing: there was an association between high importance and changes in drinking, but not in smoking.
- Readiness to change did not seem to be associated with changes in either drinking or smoking

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Limitations

- Secondary analyses of randomized trial data
- Subjects agreed to participate in a research model designed to allow them to receive a brief motivational intervention, and thus might have been predisposed to changing

Conclusion

- In this sample, changes in alcohol use are far more frequent than changes in smoking
 - 29% of the subjects with baseline unhealthy alcohol use were no longer drinking unhealthy amounts at six months
 - 13% of the baseline smokers no longer smoked at least one cigarette per day at follow-up

Conclusion

- Confidence appears to be a good predictor of subsequent reductions in both alcohol and tobacco use:
 - Subjects who had high confidence in their ability to change were about 3 times more likely to no longer report an unhealthy behavior than were subjects with low confidence levels

Conclusion

- Whether there is a causal relationship between confidence in ability to change and subsequent changes in drinking and smoking, or whether changes in confidence can lead to better outcomes remains to be determined.
- Nevertheless, this study adds to the body of evidence suggesting that confidence and self-efficacy are critical dimensions that may be causally linked to behavior change

Thank you

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Methods: secondary outcomes

- Number of drinks per week, number of episodes per month with 6 or more drinks per occasion and number of cigarettes per smoking day were used as secondary outcomes in negative binomial regression models
- Models were adjusted for baseline consumption (alcohol/smoking) and for receipt of brief intervention

Secondary outcomes:

subjects with unhealthy alcohol use at baseline

	Number of drinks per week			Number of binge drinking episodes per month		
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Readiness (reference group: low)						
Medium	0.92	0.74, 1.13	0.40	0.99	0.78, 1.24	0.91
High	1.07	0.86, 1.34	0.53	1.08	0.85, 1.38	0.52
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Importance (reference group: low)						
Medium	1.11	0.87, 1.42	0.40	1.11	0.85, 1.45	0.43
High	1.00	0.70, 1.45	0.98	1.07	0.71, 1.60	0.75
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Confidence (reference group: low)						
Medium	0.84	0.66, 1.08	0.18	0.82	0.62, 1.06	0.13
High	0.80	0.65, 0.98	0.03	0.74	0.59, 0.92	0.008

Secondary outcomes: subjects with smoking at baseline

	Number of cigarettes per smoking day		
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Readiness (reference group: low)			
Medium	1.03	0.88, 1.20	0.73
High	0.98	0.81, 1.18	0.79
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Importance (reference group: low)			
Medium	0.99	0.85, 1.15	0.92
High	1.08	0.91, 1.28	0.36
	<i>IRR</i>	<i>95%CI</i>	<i>p</i>
Confidence (reference group: low)			
Medium	0.96	0.82, 1.13	0.62
High	0.91	0.77, 1.08	0.29