SUPPLEMENTARY MATERIAL

Box S1 Prisma checklist.

SECTION AND TOPIC	ITEM #	CHECKLIST ITEM	LOCATION WHERE ITEM IS REPORTED
TITLE			
Title	1	Identify the report as a systematic review.	Pg. 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Pg. 1
INTRODUCTION	•		
Rationale	actionale 3 Describe the rationale for the review in the context of existing knowledge.		Pg. 1
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Pg. 1
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pg. 2
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Pg. 2
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Suppl. Material 3
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Pg. 2-3
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Pg. 3
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pg. 2
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Pg. 3
Study risk of bias assessment			Pg. 3
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Pg. 3-4
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Pg. 3-4
	13b	Describe any methods required to prepare the data for	N/A

		presentation or synthesis, such as handling of missing summary statistics, or data conversions.	
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Pg. 3
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Pg. 4
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta- regression).	Pg. 4
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Pg. 4
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Pg. 4
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Pg. 4
RESULTS		•	
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Fig. 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Suppl. Material 4
Study characteristics	17	Cite each included study and present its characteristics.	Suppl. Material 5,6
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Suppl. Material 7
Results of individual 19 studies		For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Suppl. Material 5,6
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Pg. 4
	20b	Present results of all statistical syntheses conducted. If meta- analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Fig. 2
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Pg. 4
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Pg. 4
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Suppl. Material 7
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Suppl. Material 8
DISCUSSION		•	
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pg. 6
	23b	Discuss any limitations of the evidence included in the review.	Pg. 7
	23c	Discuss any limitations of the review processes used.	Pg. 7
	23d	Discuss implications of the results for practice, policy, and future research.	Pg. 7
OTHER INFORMATION	N		
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review	Pg. 2

		was not registered.	
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Pg. 2
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Pg. 3
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Pg. 1
Competing interests	26	Declare any competing interests of review authors.	Pg. 1
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	N/A

Box S2 AMSTAR-2 checklist.

1. Did the research questions and in	clusion criteria for the review include the comp	onents o	f PICO?
	Optional (recommended) • Timeframe for follow-up in an explicit statement that the review method the report justify any significant deviations fro		
For Partial Yes: The authors state that they had a written protocol or guide that included ALL the following: review question(s) a search strategy inclusion/exclusion criteria a risk of bias assessment	 For Yes: As for partial yes, plus the protocol should be registered and should also have specified: a meta-analysis/synthesis plan, if appropriate, and a plan for investigating causes of heterogeneity justification for any deviations from the protocol 		Yes Partial Yes No
 3. Did the review authors explain th For Yes, the review should satisfy ONE of the <i>Explanation for</i> including only RCT OR <i>Explanation for</i> including only OR <i>Explanation for</i> including both 	Γs NRSI	the rev	iew? Yes No
4. Did the review authors use a com For Partial Yes (all the following):	prehensive literature search strategy? For Yes, should also have (all the		
 searched at least 2 databases (relevant to research question) provided key word and/or search strategy justified publication restrictions (e.g. language) 	following): searched the reference lists / bibliographies of included studies searched trial/study registries included/consulted content experts in the field where relevant, searched for grey literature conducted search within 24 months of completion of the review		Yes Partial Yes No
5. Did the review authors perform s	tudy selection in duplicate?		
achieved consensus on which studie OR two reviewers selected a sample	y agreed on selection of eligible studies and es to include e of eligible studies <u>and</u> achieved good h the remainder selected by one reviewer.	6	Yes No

6.	Did the review authors perform of			
Ear V	Dia the review additions perior in t	data extraction in duplicate?		
	included studies OR two reviewers extracted data fr	nsensus on which data to extract from om a sample of eligible studies <u>and</u> 80 percent), with the remainder extracted		Yes No
7.	Did the review authors provide a	list of excluded studies and justify the exclusion	ns?	
For Partia		For Yes, must also have:		V
	provided a list of all potentially relevant studies that were read in full-text form but excluded from the review	 Justified the exclusion from the review of each potentially relevant study 		Yes Partial Yes No
8.	Did the review authors describe t	the included studies in adequate detail?		
For Partia	al Yes (ALL the following):	For Yes, should also have ALL the following:		
	described populations	\Box described population in detail		Yes
		described intervention in detail (including doses where		Partial Yes No
	described comparators	relevant)		110
	described outcomes	described comparator in detail (including doses where relevant)		
	described research designs	 described study's setting timeframe for follow-up 		
9.	Did the review authors use a satis individual studies that were inclu	sfactory technique for assessing the risk of bias ided in the review?	(RoB) in	
RCTs				
For Partia	al Yes, must have assessed RoB	For Yes, must also have assessed RoB		Var
For Partia		from: allocation sequence that was		Yes Partial Yes
For Partia	unconcealed allocation, <i>and</i> lack of blinding of patients and	from: allocation sequence that was not truly random, <i>and</i>		Yes Partial Yes No
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing	from: ☐ allocation sequence that was not truly random, <i>and</i> ☐ selection of the reported result		Partial Yes No Includes only
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and	from: allocation sequence that was not truly random, <i>and</i>		Partial Yes No
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality)	from: allocation sequence that was not truly random, <i>and</i> selection of the reported result from among multiple measurements or analyses of a specified outcome		Partial Yes No Includes only
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all-	from: allocation sequence that was not truly random, <i>and</i> selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB:		Partial Yes No Includes only NRSI
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality) al Yes, must have assessed	from: allocation sequence that was not truly random, <i>and</i> selection of the reported result from among multiple measurements or analyses of a specified outcome		Partial Yes No Includes only
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality)	from: allocation sequence that was not truly random, and selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB: methods used to ascertain exposures and outcomes, and selection of the reported result		Partial Yes No Includes only NRSI Yes Partial Yes No
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality) al Yes, must have assessed from confounding, <i>and</i>	from: allocation sequence that was not truly random, and selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB: methods used to ascertain exposures and outcomes, and		Partial Yes No Includes only NRSI Yes Partial Yes
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality) al Yes, must have assessed from confounding, <i>and</i>	from: allocation sequence that was not truly random, and selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB: methods used to ascertain exposures and outcomes, and selection of the reported result from among multiple measurements or analyses of a 		Partial Yes No Includes only NRSI Yes Partial Yes No Includes only
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality) al Yes, must have assessed from confounding, <i>and</i> from selection bias Did the review authors report o	 from: allocation sequence that was not truly random, and selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB: methods used to ascertain exposures and outcomes, and selection of the reported result from among multiple measurements or analyses of a specified outcome 		Partial Yes No Includes only NRSI Yes Partial Yes No Includes only RCTs
For Partia from	unconcealed allocation, <i>and</i> lack of blinding of patients and assessors when assessing outcomes (unnecessary for objective outcomes such as all- cause mortality) al Yes, must have assessed from confounding, <i>and</i> from selection bias Did the review authors report o	from: allocation sequence that was not truly random, and selection of the reported result from among multiple measurements or analyses of a specified outcome For Yes, must also have assessed RoB: methods used to ascertain exposures and outcomes, and selection of the reported result from among multiple measurements or analyses of a specified outcome for among multiple measurements or analyses of a specified outcome		Partial Yes No Includes only NRSI Yes Partial Yes No Includes only RCTs

11. If meta-analysis was performed did the review authors use appropriate methods for of results?	or stati	stical combination
 RCTs For Yes: The authors justified combining the data in a meta-analysis AND they used an appropriate weighted technique to combine study results and adjusted for heterogeneity if present. AND investigated the causes of any heterogeneity 		Yes No No meta-analysis conducted
 For NRSI For Yes: The authors justified combining the data in a meta-analysis AND they used an appropriate weighted technique to combine study results, adjusting for heterogeneity if present AND they statistically combined effect estimates from NRSI that were adjusted for confounding, rather than combining raw data, or justified combining raw data when adjusted effect estimates were not available AND they reported separate summary estimates for RCTs and NRSI separately when both were included in the review 		Yes No No meta-analysis conducted
12. If meta-analysis was performed, did the review authors assess the potential impact studies on the results of the meta-analysis or other evidence synthesis?	of RoE	3 in individual
 For Yes: included only low risk of bias RCTs OR, if the pooled estimate was based on RCTs and/or NRSI at variable RoB, the authors performed analyses to investigate possible impact of RoB on summary estimates of effect. 		Yes No No meta-analysis conducted
13. Did the review authors account for RoB in individual studies when interpreting/ di review?	iscussiı	ng the results of the
For Yes: Included only low risk of bias RCTs OR, if RCTs with moderate or high RoB, or NRSI were included the review provided a discussion of the likely impact of RoB on the results		Yes No
14. Did the review authors provide a satisfactory explanation for, and discussion of, an in the results of the review?	ny hete	rogeneity observed
 For Yes: There was no significant heterogeneity in the results OR if heterogeneity was present the authors performed an investigation of sources of any heterogeneity in the results and discussed the impact of this on the results of the review 		Yes No
15. If they performed quantitative synthesis did the review authors carry out an adeque publication bias (small study bias) and discuss its likely impact on the results of the synthesis of the		
For Yes: performed graphical or statistical tests for publication bias and discussed the likelihood and magnitude of impact of publication bias 		Yes No No meta-analysis conducted

16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?			
For Yes:			
	The authors reported no competing interests OR		Yes
	The authors described their funding sources and how they managed		No
	potential conflicts of interest		

Database	Terms used	Identified Articles
MEDLINE	("sense of coherence" OR "salutogenesis") AND ("smoking" OR "cigarette smoking" OR "tobacco" OR "Tobacco Use Disorder" OR "Alcohol" OR "Alcoholism" OR "alcohol drinking" OR "substance use" OR "Substance-	186
Web of Science	Related Disorders" OR "Substance Abuse" OR "Illicit Drugs" OR "cocaine" OR "crack" OR "cannabis" OR "Amphetamine" OR "narcotic")	180
PsyInfo		168
Lilacs	("senso de coerência" OR "salutogênese") AND ("fumo" OR "álcool" OR "tabaco" OR "alcoolismo" OR "abuso de substância" OR "uso de substância" OR "drogas ilícitas" OR "crack" OR "maconha" OR "cocaína" OR "narcótico")	32
Total		566

Box S3 References that were excluded after their full text was reviewed and the reasons for

exclusion.

Excluded references	Reasons
Kerr WC, Ye Y. Relationship of life-course drinking patterns to diabetes, heart	Data on the association between
problems, and hypertension among those 40 and older in the 2005 U.S. National	sense of coherence and substance
Alcohol Survey. J Stud Alcohol Drugs. 2010;71(4):515-525. loi:10.15288/jsad.2010.71.515	use not presented.
Shechory Bitton M, Noach HB. Psychological factors and the use of psychoactive	Data on the association between
ubstances in relation to sexual orientation: A study on Israeli young adults. Curr	sense of coherence and substance
Psychol. Published online May 6, 2022. doi:10.1007/s12144-022-03189-6	use not presented.
Allison KR, Adlaf EM, Ialomiteanu A, Rehm J. Predictors of health risk	Data on the association between
behaviours among young adults: analysis of the National Population Health Survey. Can J Public Health. 1999;90(2):85-89. doi:10.1007/BF03404107	sense of coherence and substance use not presented.
Arghabaei, Mohammad et al. "The Role of Family Emotional Atmosphere, Sense	Data on the association between
f Coherence, and Affects in the Prediction of Tendency Toward Substance Use	sense of coherence and substance
Among University Students." Iranian Journal of Psychiatry & Clinical Psychology	use not presented.
2018): n. pag.	
Moutinho LSM, Mendes AMdOC, Lopes MJ. Alcohol consumption and the sense	Data on the association between
f coherence in young people in educational training. SMAD Revista eletrônica	sense of coherence and substance
aúde mental álcool e drogas. 2015;11:208-16.	use not presented.
Franke A. Substanzkonsum von Frauen - Ergebnisse einer salutogenetischen	Data on the association between
Intersuchung [Consumption of alcohol and medicaments of womenresults of a	sense of coherence and substance
alutogenetic inquiry]. Zentralbl Gynakol. 2002;124(6):331-335. doi:10.1055/s-	use not presented.
002-34745	
Nyamathi AM. Relationship of resources to emotional distress, somatic	Data on the association between
omplaints, and high-risk behaviors in drug recovery and homeless minority	sense of coherence and substanc
vomen. Res Nurs Health. 1991;14(4):269-277. doi:10.1002/nur.4770140405	use not presented.
Adorni R, Zanatta F, D'Addario M, et al. Health-Related Lifestyle Profiles in	Data on the association between
Iealthy Adults: Associations with Sociodemographic Indicators, Dispositional	sense of coherence and substance
Deptimism, and Sense of Coherence. Nutrients. 2021;13(11):3778. Published 2021	use not presented
Det 25. doi:10.3390/nu13113778	L
Then G. Gender differences in crime, drug addiction, abstinence, personality	Sample of users – without a
haracteristics, and negative emotions. J Psychoactive Drugs. 2009 Sep;41(3):255-	comparison group.
6. doi: 10.1080/02791072.2009.10400536. PMID: 19999679.	
Badura K, Gorczyca P, Tomalczyk E, Matysiakiewicz J. Ocena poczucia	Sample of users – without a
oherencji u pacjentów z zespołem zalezności alkoholowejdoniesienie wstepne	comparison group.
Estimation of a sense of coherence in patients with alcoholic dependence	
yndromeintroductory report]. Wiad Lek. 2000;53(9-10):488-492.	
Nomoto M, Hara A, Kikuchi K. Effects of long-time commuting and long-hour	Sample of users – without a
working on lifestyle and mental health among school teachers in tokyo, JAPAN. J	comparison group.
Ium Ergol (Tokyo). 2015;44(1):1-9.	
le Oliveira Miranda L, Neiva da Silva A, Pereira da Cunha I, Luiz Mialhe F, Laura	Sample of users – without a
Cortellazzi K, Rodrigues Lacerda V. Sense of coherence and oral health of users of	comparison group.
psychoactive substances. Journal of Substance Use. 2021;26(6):639-44.	
Lundqvist T. Chronic cannabis use and the sense of coherence. Life Sciences.	Sample of users – without a
995;56(23):2145-50.	comparison group.
Gila Chen. Gender differences in sense of coherence, perceived social support, and	Sample of users – without a
legative emotions among drug-abstinent israeli inmates. Int J Offender Ther Comp	comparison group.
Criminol. 2010;54(6):937-958. doi:10.1177/0306624X09343185	
tiera-Sampol A, Bennasar-Veny M, Tauler P, Nafría M, Colom M, Aguilo A.	Outcomes and exposure that wer
Association between Depression, Lifestyles, Sleep Quality and Sense of Coherence	not of interest
n a Population with Cardiovascular Risk. Nutrients. 2021;13(2):585. Published	
021 Feb 10. doi:10.3390/nu13020585	
Aalinauskiene V, Leisyte P, Romualdas M, Kirtiklyte K. Associations between	Outcomes and exposure that wer
elf-rated health and psychosocial conditions, lifestyle factors and health resources	not of interest
mong hospital nurses in Lithuania. J Adv Nurs. 2011;67(11):2383-2393.	
oi:10.1111/j.1365-2648.2011.05685.x	
Binkowska-Bury M, Kruk W, Szymanska J, Marc M, Penar-Zadarko B, Wdowiak	Outcomes and exposure that wer
. Psychosocial factors and health-related behavior among students from South-	not of interest
Cast Poland. Ann Agric Environ Med. 2010;17(1):107-113.	
/yas D, Patel M, Sharma A, Chhabra KG, Gupta A, Mundra R. Impact of self-	Outcomes and exposure that wer
fficacy and sense of coherence on tobacco cessation motivation and readiness	not of interest
mong slum dwellers in Ajmer city during COVID-19 health emergency. J Family	
Med Prim Care. 2022;11(5):1867-1875. doi:10.4103/jfmpc.jfmpc_1821_21	
Sarit S, Rajesh G, Eriksson M, Pai M. Impact of Sense of Coherence on Oral	Outcomes and exposure that wer
Health Behaviour and Perceived Stress among a Rural Population in South India- An Exploratory Study. Journal of Clinical and Diagnostic Research.	not of interest

Outcomes and exposure that were
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