

Table S1 – Descriptive information about cohort studies (n = 49)

Authors (year) - country	Target population (n)	Structure - Baseline age, cohort years, #waves	Tobacco measure	Psychological measure/s	Relationship/s examined	Result	Covariates	Quality Score %	Limitations
Ajdacic-Gross et al. [24] (2009) - Switzerland	Stratified sample of participants with psychological disorders (N = 591)	21 years of age; 20-year follow-up; 6-waves	Smoking onset (never vs adolescent; never vs adult)	SPIKE	Tobacco>bipolar	For heavy smokers, adolescent onset of smoking predicted later bipolar compared to never smokers (OR = 7.1, CI = 1.9-25.9); but for other smokers this relationship was non-significant (OR = 0.9, CI = 0.3-2.7)	Education; gender; smoking parents; conduct problems; school problems; family problems; extraversion; neuroticism; masculinity; regular tobacco use	63.6	Adolescent onset of smoking retrospective; temporal sequencing unclear; high attrition; small bipolar subgroup; CIs unavailable
Ames et al. [25] (2018) - Canada	Youth (n = 662)	12-18 years of age; 10-year follow-up; 6-waves	Smoking status (smoker vs non-smoker)	BCFPI	Tobacco>depression	Adolescent smoking predicted membership in persistent high depression trajectory group versus low stable group (Est. = 1.18, SE = 0.55, P < .05, OR = 3.26, CIs unavailable)	Gender; age; SES; earlier levels of smoking and depression; physical health; health-promoting behaviour; heavy drinking; marijuana use; number of sexual partners; BMI	72.7	CIs unavailable
Berk et al. [26] (2010) - Australia	Youth with schizophrenia (n = 193)	21.9 (SD = 3.6) years of age; 7.5-year follow-up; 3-waves	Smoking status (smoker vs non-smoker)	BPRS-PS	Tobacco>psychosis	Baseline smoking did not predict future psychosis (B = 0.20, p = .871)	Gender; problem illicit drug use; problem alcohol use; duration of untreated psychosis	72.7	Change in smoking status not assessed
Bierhoff et al. [27] (2019) - USA	University students (n = 2397)	20.5 (SD = 1.93) years of age; 2-year follow-up; 6-waves	Prior 30-day tobacco quantity (cigarettes, cigarillos)	PHQ-9; ZSRAS	Depression>tobacco; anxiety>tobacco	Depression (OR = 1.05, CI = 1.02-1.09) and anxiety (OR = 1.02, CI = 1.00-1.04) predicted cigarette quantity; depression (OR = 1.05, CI = 1.02-1.09) and anxiety (OR = 1.03, CI = 1.00-1.06) predicted cigarillo quantity; but depression and anxiety did not predict smokeless tobacco use, e-cigarette use, or hookah use (ORs ranged from 0.95-1.06)	Age; gender; sexual orientation; ethnicity; parental education; school type; ADHD;	36.4	Anxiety only measured at W5; only W6 smoking included in analyses; temporal ordering unclear
Borges et al. [28] (2018) - Mexico	Youth (n = 1071)	12-17 years of age; 8-year follow-up; 2-waves	Tobacco use (never vs use before age 15 vs use at age 15 or older); nicotine dependence	WMH-CIDI	Tobacco>depression; tobacco>anxiety; depression>tobacco; anxiety>tobacco	Early tobacco use predicted future mood disorder (RR = 1.42, CIs = 1.02-1.98); other results with tobacco use were non-significant but data not shown; nicotine dependence predicted future mood disorder (RR = 3.30, CI = 1.66-6.55); mood disorder did not predict future nicotine dependence (RR = 1.50, CI* = 0.55-3.90); anxiety did not predict future nicotine dependence (RR = 1.78, CI* =	Alcohol use; drug use; gender; age; living with parents; enrolled in school; parents' education; parents' income; number of childhood adversities	72.7	Individual disorders not examined as outcomes; only 2-waves

0.95-3.60); data unavailable for nicotine dependence predicting anxiety									
Buchy et al. [29] (2014) - USA and Canada	Youth at high clinical risk of psychosis (n = 170)	19.8 (SD = 4.5) years of age; 4-year follow-up; 2-waves	Tobacco use (abstinent vs any use vs severe dependence)	SIPS	Tobacco>psychosis	Tobacco use did not predict transition to psychosis (U = 1752.5, p = .13)	Alcohol use; cannabis use; other illicit drug use	63.6	Small sub-group sample sizes; smoking only measured at W1; only 2-waves
Buchy et al. [30] (2015) - USA and Canada	Youth at clinical high risk of psychosis (N = 735) and healthy controls (N = 278)	18.5 (SD = 4.2) years of age for clinical high risk; 19.6 (4.7) years of age for controls; 2-year follow-up; 3-waves	Tobacco use (abstinent vs use without impairment vs abuse vs dependence)	SIPS; SOPS	Tobacco>psychosis	Smoking severity (U = 11495.5, p = .24) and frequency (U = 11638.0, p = .35) did not predict transition to psychosis	Alcohol use; cannabis use; other illicit drug use	54.5	Small sub-group sample sizes; all participants were help-seekers which may limit external validity
Bulhões et al. [31] (2020) - Portugal	Youth (n = 2010)	13-years of age; 8-year follow-up; 3-waves	Smoking status (never vs former; never vs current)	BDI-II	Tobacco>depression	Current smoking (vs never) predicted moderate (OR = 1.61, CI = 1.22-2.13) and high (OR = 1.89, CI = 1.18-3.01) depression trajectory groups (vs low). Former smoking (vs never) did not predict moderate (OR = 1.15, CI = 0.87-1.52) or high (OR = 1.08, CI = 0.65-1.78) depression trajectory groups (vs low)	Parents' education	54.5	Minimal covariates; temporal ordering unclear
Chen et al. [32] (2017) - USA	Youth with early-onset schizophrenia (n = 117)	13.9 (SD = 2.34) years of age; 3-year follow-up; 7-waves	Prior 6-month cigarette use (yes or no)	RADS; RCMAS	Tobacco>depression; tobacco>anxiety	Both depression (B = -13.70, SE = 5.03, p < .01) and anxiety (B = -14.41, SE = 5.90, p < .05) interacted with time to predict smoking	Age; gender; race; comorbidity; diagnosis; trauma; ; poverty	45.5	Small sample size; high attrition
Crane et al. [33] (2021) - USA	Youth (n = 1263)	15.6 (SD = 0.6) years of age; 7-year follow-up; 7-waves	Cigarette frequency (#days used in past month)	CESD-20	Depression>tobacco	Depression and time did not interact to predict future cigarette frequency (Est. = 0.00, SE = 0.00, p = .35)	Gender; race; ethnicity	72.7	Minimal covariates
Davies et al. [34] (2018) - UK	Youth (n = 6796)	12 years of age; 8-year follow-up; 4-waves	Smoking frequency (regularly [at least weekly] vs not)	SMFQ; PLIKSi	Psychosis>tobacco; depression>tobacco	Psychosis (OR = 1.11, CI = 0.79-1.56) and depression (OR = 1.23, CI = 0.78-1.95) at age 12 did not predict smoking at age 18	Gender; SES; housing; mother's education; IQ at age 8; SDQ at age 8; baseline levels of psychosis and depression	72.7	Smoking only measured at W3; high attrition
Ferdinand et al. [35] (2004) - Netherlands	Children and youth (n = 2600)	4-16 years of age; 14-year follow-up; 6-waves	Tobacco use (yes or no)	CBCL; YSR; YASR	Psychosis>tobacco	Auditory hallucinations at W2-5 predicted tobacco use at W6 (ORs ranging from 2.0-3.3); visual hallucinations were non-significant predictors (results not shown)	Gender; age; SES	54.5	Tobacco use not measured at W1
Fonseca et al. [36] (2021) - Brazil	University students without depression (n = 1034)	16-25 years of age; 3-year follow-up; 4-waves	Smoking status (yes if smoked at least 1 cigarette in previous 30-days)	PHQ-9	Tobacco>depression	Smoking did not predict depression for males (unadjusted IRR = 1.04, CI = 0.61-1.76) or females (unadjusted IRR = 1.49, CI = 0.97-2.27)	Age; SES; living situation; stress; alcohol use; sedentary behaviour; physical activity; sleep duration	54.5	Temporal ordering unclear; no overall statistics combining genders

Gage et al. [37] (2014) - UK	Youth without psychotic experiences at age 16 (n = 1573)	16 years of age; 2-year follow-up; 2-waves	Cigarette quantity (non-smoker vs experimenter vs weekly smoker vs daily smoker)	PLIKSi	Tobacco>psychosis	W1 cigarette use predicted psychotic symptoms at W2 (OR = 1.77, CI = 1.18-2.66)	Psychotic experience at 18 by categorical frequency of cigarette use at 18; family history of depression; mother's education; borderline personality; IQ at age 8; depression at age 12; conduct disorder; peer problems; bullied; cannabis use; illicit drug use; alcohol use	72.7	Tobacco use not measured at W2; psychosis not measured at W1; only 2-waves
Gårdvik et al. [38] (2020) - Norway	Youth (n = 717)	13-18 years of age; 3-year follow-up; 2-waves	Smoking status (yes or no)	K-SADS; DAWBA	Tobacco>depression; tobacco>anxiety	Smoking did not predict mood disorders (RD% = -0.5, CI = -3.0-2.6) but did predict anxiety disorders (RD% = 4.5, CI = 2.0-9.2)	Chronic pain; any somatic disorder; alcohol use; drug use; age; SES	72.7	Only 2-waves; temporal ordering unclear
Goodwin et al. [39] (2004) - New Zealand	Youth (n = 1000)	18-years of age; 2-year follow-up; 2-waves	Nicotine dependence (survey constructed based on DSM-IV criteria)	WMH-CIDI	Anxiety>tobacco	Anxiety disorders were not associated with nicotine dependence (OR = 1.46, CI = 0.93-2.29)	Parental change; interparental violence; sexual abuse; physical abuse; parental history of criminality, alcohol problems, illicit drug use and depression/anxiety; low self-esteem; neuroticism; quality of parental attachment; family stress; early shyness; early conduct problems; early attention problems; gender; prior substance dependence; concurrent major depression; affiliation with deviant peers	72.7	Only 2-waves; temporal ordering unclear; specific anxiety disorders not specified
Goodwin et al. [40] (2013) - Germany	Youth (n = 3021)	14-24 years of age; 10-year follow-up; 4-waves	Nicotine use (yes or no) and smoking trajectory (non-user vs increasing use vs decreasing use vs persistent use; MCIDI/DIA-X)	MCIDI/DIA-X	Bipolar>tobacco; depression>tobacco; anxiety>tobacco	Any depressive disorder, any fear disorder, GAD, and specific phobia were associated with nicotine use (ORs ranged from 1.1-5.7); any depressive disorder predicted subsequent decreasing smoking trajectory (OR = 1.7, CI = 1.1-2.8); panic disorder negatively predicted increasing smoking trajectory (OR = 0.1; CI = 0.0-0.9); all other results non-significant (ORs ranged from 0.7-2.2)	Gender; age;	54.5	Difficult to interpret results (e.g., depression predicted binary nicotine use but also predicted decreasing trajectory).
Griesler et al. [41] (2008) - USA	Youth (n = 1039)	15.7 (SD = 1.4) years of age; 2-	Nicotine dependence (CIDI); lifetime	DISC	Anxiety>tobacco; tobacco>anxiety;	Anxiety (OR = 1.0, CI = 0.3-3.4) and mood (OR = 1.7, CI = 0.8-3.7) disorder did not predict nicotine dependence;	Age; gender; ethnicity; disruptive disorder; novelty seeking; age of	72.7	Individual disorders not examined as predictors/outcomes;

		year follow-up; 5-waves	cigarettes smoked (0; 1; 2-5; 6-15; 16-25; 26-99; 100+); other lifetime tobacco use		depression>tobacco; tobacco>depression	nicotine dependence did not predict anxiety (OR = 0.8, CI = 0.3-2.0) and mood (OR = 2.4, CI = 0.5-10.7) disorder; lifetime cigarettes smoked did not predict anxiety (OR = 1.0, CI = 0.9-1.0) and mood (OR = 1.0, CI = 0.9-1.0) disorder; other lifetime tobacco use did not predict anxiety (OR = 0.4, CI = 0.2-1.0) and mood (OR = 0.6, CI = 0.1-2.7) disorder	onset of smoking; initial sensitivity to tobacco; number of lifetime cigarettes smoked; other lifetime tobacco use; drug use; peer smoking; sibling smoking; parent smoking; parent depression; parent delinquency; any psychiatric disorder	short follow-up period; variables not measured at all waves
						No specific psychological disorders predicted one dependence criterion (statistics now shown) and only panic disorder predicted full (i.e., three) dependence criteria (HR = 2.2, CI = 1.2-3.9); nicotine dependence did not predict any specific psychological disorders (statistics not shown); anxiety disorder did not predict first nicotine dependence criterion (HR = 1.10, CI = 0.78-1.55), but did predict full nicotine dependence (HR = 1.68, CI = 1.12-2.52); mood disorder did not predict first nicotine dependence criterion (HR = 1.16, CI = 0.86-1.55) or full nicotine dependence (HR = 0.93, CI = 0.63-1.38); one dependence criterion did not predict anxiety (HR = 1.12, CI = 0.52-2.39) or mood (HR = 1.10, CI = 0.54-2.26) disorder; full dependence criteria did not predict anxiety (HR = 0.76, CI = 0.23-2.49) or mood (HR = 1.82, CI = 0.67-4.96) disorder	Gender; ethnicity; age of onset of tobacco use; initial sensitivity to tobacco; alcohol and other illicit drug use; parent education; parent smoking; parent depression; parent delinquency; ever tobacco dependent	Individual disorders not examined as predictors/outcomes; short follow-up period; variables not measured at all waves
Griesler et al. [42] (2011) - USA	Stratified sample of smoking youth (n = 814)	15.7 (SD = 1.4) years of age; 2-year follow-up; 5-waves	Nicotine dependence (zero dependence criterion vs one dependence criterion vs three criteria; CIDI)	DISC	Tobacco>depression;			72.7
Hu et al. [43] (2012) - USA	Stratified sample of lifetime youth smokers (n = 877)	14.1 (SD = 1.4) years of age; 7-year follow-up; 6-waves	Nicotine dependence (no dependence criteria vs early onset/chronic course vs early onset/remission vs late onset)	DISC	Anxiety>tobacco	Anxiety disorder predicted chronic course, early remission, and late onset nicotine dependence (compared with none, ORs ranged from 3.65-4.55); anxiety disorder did not predict chronic course vs early remission, chronic course vs late onset, or early remission vs late onset (ORs ranged from 1.04-1.09)	Gender; ethnicity; onset age of smoking; smoked 5+ packs per month; maximum number of drinks per month; marijuana use; onset age of marijuana; pleasant initial sensitivity to tobacco; parental nicotine dependence; disruptive/mood/anxiety disorder by W5	Anxiety only measured at W3 and W5; temporal ordering unclear

Hui et al. [44] (2013) - China	Youth with psychosis (n = 1400)	21.2 (SD = 3.4) years of age; 3-year follow-up; 3-waves	Smoking status (non-smoker vs current smoker vs ex-smoker)	CGI-S	Tobacco>psychosis	Smoking predicted relapse of psychosis (HR = 1.42, CI = 1.15-1.76)	Age; schizophrenia diagnosis; length of baseline hospitalisation; adherence at clinical stabilisation	63.6	Difficulty defining relapse; confounder of stressful life events not included
Isensee et al. [45] (2003) - Germany	Youth (n = 3021)	14-24 years of age; 3.5-year follow-up; 3-waves	Smoking quantity (never vs occasional vs non-dependent regular vs dependent regular)	MCIDI/DIA-X	Tobacco>anxiety; anxiety>tobacco	Smoking predicted future agoraphobia, SAD, specific phobia, panic attacks without disorder, and unspecified phobia (ORs ranged from 2.4-3.7), but did not predict panic disorder (ORs ranged from 0.1-3.6); no psychological disorders or symptoms predicted smoking (ORs ranged from 0.3-2.6)	Gender; age; PTSD; alcohol and illicit drug disorders; eating disorders	72.7	Small sample sizes for certain disorders
Johnson et al. [46] (2000) - USA	Youth (n = 688)	~16 years of age; 6-year follow-up; 2-waves	Smoking quantity (less than 1-pack per day vs more than 1-pack per day)	DISC	Tobacco>anxiety; anxiety>tobacco	Smoking predicted future agoraphobia, GAD, and panic disorder (ORs ranged from 5.53-15.58) but not SAD (OR = 0.44, CI = 0.04-4.62); anxiety disorders did not predict future smoking (statistics unavailable)	Gender; age; difficult childhood temperament; parental education; parental smoking; parental psychopathology; adolescent alcohol and drug use; adolescent anxiety and depressive disorders	72.7	Only 2-waves; small sample sizes for certain disorders
Jones et al. [47] (2018) - UK	Youth (n = 3328)	13.9 (SD = 2.7) years of age; 5-year follow-up; 6-waves	Cigarette use (yes or no)	PLIKSi	Psychosis>tobacco; tobacco>psychosis	Cigarette use did not predict subsequent psychosis (ORs ranged from 0.73-1.78); psychosis did not predict subsequent cigarette use (ORs ranged from 0.86-1.60)	Gender; mother's education; emotional and behavioural problems at 9 years of age; mother's smoking during pregnancy	63.6	High attrition
Kalan et al. [48] (2020) - Lebanon	Youth waterpipe (N = 228) and cigarette smokers (N = 139)	14.3 (SD = 1.2) years of age; 6-year follow-up; 8-waves	Nicotine dependence initial symptoms; nicotine dependence full diagnosis	DSS	Depression>tobacco	For waterpipe smokers, depression did not predict initial nicotine dependence symptoms (unadjusted HR = 1.03, CI = 0.98-1.09) but did predict full nicotine dependence diagnosis (HR = 1.13, CI = 1.02-1.25). For cigarette smokers, depression did not predict initial dependence symptoms (unadjusted HR = 1.00, CI = 0.94-1.06) or full nicotine dependence diagnosis (unadjusted HR = 0.96, CI = 0.85-1.09)	Gender; BMI; SES; age	54.5	Small sample size
Kendler et al. [49] (2015) - Sweden	Males from conscript registry (n = 233,879)	18.5 (SD = 8.4) years of age; 8-year follow-up; 5-waves	Smoking quantity (none vs light vs heavy)	Registry diagnosis (assessment tool unclear)	Tobacco>psychosis	W1 and W2 light (vs no) smoking did not predict subsequent schizophrenia (ORs ranged from 1.60-1.62) but W3 did (OR = 1.77, CI = 1.02-3.05); W1 and W3 heavy (vs no) smoking did predict subsequent schizophrenia (ORs ranged from 2.21-	Family SES; community SES; drug abuse	45.5	Only male youth; psychological disorder assessment method unclear

							2.39), but W2 did not (OR = 1.96, CI = 0.95-4.06)			
King et al. [50] (2004) - USA	Youth twins (n = 1364)	11 years of age; 3-year follow-up; 2-waves	Nicotine onset; regular cigarette use; daily nicotine use	DICA-R	Anxiety>tobacco; tobacco>anxiety		Using adjusted analyses, W1 MDD predicted W2 nicotine onset (OR = 1.98, CI = 1.15-3.41), but using unadjusted analyses did not predict regular cigarette use or daily nicotine use (ORs ranged from 0.83-1.94); using unadjusted analyses, W1 separation anxiety disorder and overanxious disorder did not predict any of the outcomes (ORs ranged from 0.84-1.25)	Conduct disorder; oppositional defiant disorder; ADHD; gender	72.7	Only 2-waves; anxiety disorders assessed for females only; variables only measured at one time point each; only some analyses adjusted
MacKie et al. [51] (2011) - UK	Youth (n = 409) with elevated hopelessness, anxiety-sensitivity, impulsivity and sensation-seeking	14.5 years of age; 1.5-year follow-up; 4-waves	Cigarette use (yes or no)	DIS	Tobacco>psychosis		W1 cigarette use did not predict persistent psychotic trajectory (OR = 1.3, 0.3-5.1) but did predict increasing psychotic trajectory (OR = 5.4, CI = 1.5-20.1)	Gender; ethnicity; anxiety sensitivity; hopelessness; impulsivity; sensation seeking	54.5	Short follow-up; small sample sizes in sub-groups
Marmorstein et al. [52] (2010) - USA	Male youth (n = 503)	~6.2 years of age; 14-year follow-up; 15-waves	Age at first tobacco use	CBCL; TRF; YSR	Anxiety>tobacco		Both generalised (OR = 0.06, CI = .02-.17) and social anxiety (OR = 0.06, CI = .02-.17) interacted with time to predict earlier onset of tobacco use	Age at first alcohol and substance use; delinquency	63.6	Statistics unclear; only male sample
Marsden et al. [53] (2019) - USA	University students (n = 5236)	21.0 (SD = 2.3) years of age; 3-year follow-up; 6-waves	Past 30-day use and frequency of use of cigarettes, refillable e-cigarettes, disposable e-cigarettes, hookah, cigars (including cigarillos and little cigars), and smokeless tobacco	CESD-10	Tobacco>depression		For past 30-day use, significant predictors of depression were cigarettes, refillable e-cigarettes, and hookah (rate ratios ranged from 1.01-1.03), but disposable e-cigarettes, cigars, and smokeless tobacco were non-significant (rate ratios ranged from 1.00-1.10); for frequency of use, significant predictors of depression were cigarettes, refillable e-cigarettes, and smokeless tobacco (rate ratios ranged from 1.10-1.04), but disposable e-cigarettes, cigars, and hookah were non-significant (rate ratios ranged from 1.01-1.05)	Gender; ethnicity; age; father's education; college duration; survey wave; other tobacco products	54.5	University student sample
Moylan et al. [54] (2013) - Norway	Youth (n = 456)	14-15 years of age; 4-year follow-up; 3-waves	Smoking status (active vs non-active)	GADS	Tobacco>anxiety; anxiety>tobacco		Active smoking in adolescence predicted later anxiety (B = 0.17, p < .05); adolescent anxiety did not predict later smoking (statistics not presented)	Mother's education	72.7	Very small cell sizes; relatively high SES of participants; minimal covariates
Mustonen et al. [55] (2018) - Finland	Youth (n = 6081)	15-16 years of age; 15-year follow-up;	Cigarette quantity (non-smokers vs moderate [1-9 cigarettes a day] vs	Registry diagnoses based on ICD-10 criteria	Tobacco>psychosis		Heavy smoking (HR = 2.00, CI = 1.13-3.54) and number of daily cigarettes (OR = 1.05, CI = 1.01-1.08) predicted later psychosis; but moderate smoking did not	Baseline psychotic experiences; cannabis use; alcohol use; other substance use; parental	72.7	Number of waves unclear; psychosis diagnosis method unclear

		number of waves unclear	heavy [greater than 10 cigarettes a day]); number of daily cigarettes smoked; age of smoking onset			(HR = 0.42, CI = 0.13-1.34); early onset predicted subsequent psychosis compared to late onset (HR = 2.84, CI = 1.12-7.18)	substance abuse; parental psychosis		
Okeke et al. [56] (2013) - USA	Mexican American youth (N = 1328)	11-13 years of age; 5-year follow-up; 3-waves	Smoking status (never vs puffer [tried but not completed single cigarette] vs experimenter [have consumed one cigarette or more])	STAS	Anxiety>tobacco	Anxiety predicted experimenter status (OR = 1.04, CI = 1.02-1.07) but not puffer status (OR = 1.01, CI = 0.99-1.03)	Gender; age; birth country; parental education; BMI; body image	54.5	Temporal ordering unclear; variables not measured at each time point
Pedersen et al. [57] (2009) - Norway	Youth (n = 1501)	13 years of age; 13-year follow-up; 4-waves	Smoking status (not smoking vs smoking but not dependent vs nicotine dependent)	(SCL-90)	Tobacco>anxiety; anxiety>tobacco	Nicotine dependent status predicted later anxiety (B = 0.09, p < .01) but non-dependent smoking status did not (B = 0.05, p > .05); anxiety did not predict later smoking status (OR = 1.06, CI = 0.97-1.17)	Gender; age; depression and parasuicide at age 20; and at ages 15 and 20; SES, parental care and monitoring, parental divorce, education, conduct problems, cannabis	54.5	Infrequent assessments
Purborini et al. [58] (2021) - Indonesia	Youth (n = 1960)	17.0 (SD = 1.4) years of age; 7-year follow-up; 2-waves	Lifetime tobacco status (ever vs never); current tobacco status (never vs current vs former)	CESD-10	Tobacco>depression	All tobacco use statuses predicted depression including ever smoked (B = 0.92, CI = 0.73-1.12), current smoker (B = 0.88, CI = 0.68-1.08), and former smoker (B = 1.52, CI = 0.95-2.08)	Marital status; region; SES	81.8	Only 2-waves; temporal ordering unclear
Raffetti et al. [59] (2019) - Sweden	High school students (n = 3959)	13 years of age; 1-year follow-up; 2-waves	Cigarette smoking; snus use; current; tobacco use; tobacco dependence (all variables yes or no)	CES-DC; SDQ	Tobacco>depression	Cigarette smoking (b = 3.4, p = .006) and tobacco dependence (b = 3.4, p = .008) predicted later depression, but snus (b = -0.1, p = .934) and tobacco (b = 1.9, p = .073) use did not; using depression onset as outcome, only tobacco dependence was a significant predictor (OR = 4.8, CI = 1.7-14.0), but cigarette smoking, tobacco use, and snus use were not (ORs ranged from 0.8-2.0)	Baseline depression; alcohol use; parental education; parental birthplace; gender	72.7	Minimal waves; short follow-up;
Ranjit et al. [60] (2019) - Finland	Youth twins (n = 4152)	14 years of age; 3-year follow-up; 2-waves	Lifetime cigarettes smoked (zero vs 1-50; zero vs 50+); smoking status (never vs experimenter; never vs quitter; never vs regular)	GBI	Tobacco>depression	Lifetime cigarettes smoked and smoking status predicted later depression (IRR 1.17, 1.19); depression did not predict later smoking (results not shown)	Gender; school grades; alcohol use to intoxication; health status, pre-existing depressiveness; shared familial and genetic factors between twins	72.7	Minimal waves; variables only measured at one wave

Ranjit et al. [61] (2019b*) - Finland	Youth twins (n = 4236)	17.5 years of age; 5-year follow-up; 2-waves	Smoking status (never vs ever; never vs experimenters; never vs quitters or trying to quit; never vs non-daily; never vs daily)	GBI	Tobacco>depression; depression>tobacco	Smoking predicted later depression (IRR 1.17, 95% CI: 1.03-1.33); depression predicted later smoking (RR = 1.05, 95% CI: 1.00-1.10) (based on the individual level findings)	Gender; age; baseline depression; shared familial and genetic factors between twins	54.5	Minimal waves
Savage et al. [62] (2016) - Finland	Youth twins (n = 1906)	12 years of age; 10-year follow-up; 4-waves	Nicotine dependence symptoms	MPNI	Anxiety>tobacco	Peer/teacher/parent-rated social anxiety did not predict future nicotine dependence (Bs ranged from -.15 to -.01)	Nicotine dependence at W2 and W3; gender	45.5	Social anxiety only measured at W1; statistics unclear; low internal reliability of parent-rated social anxiety
Shete et al. [23] (2017) - USA	Mexican American youth (n = 1328)	11.8 (SD = 0.8) years of age; 5-year follow-up; 2-waves	Smoking escalation (yes or no)	STAS	Anxiety>tobacco	Anxiety predicted smoking escalation (OR = 1.03, CI = 1.02-1.05)	Gender; age; subjective social status; intention to try cigarette; peer smoking; parental smoking	36.4	Minimal waves
Smith et al. [63] (2014) - USA	Sub-sample of young adults (precise N unclear, but approximately 14,000)	18-29 years of age; 1-year follow-up; 2-waves	Smoking cessation (yes or no)	AUDADIS-IV	Depression>tobacco; anxiety>tobacco; bipolar>tobacco	Compared to the longitudinal smoking cessation rate of no-diagnosis (28.7), all longitudinal smoking cessation rates of those with past-year diagnoses were significantly lower (ps < .001): SAD (13.8), agoraphobia (12.0), panic disorder (14.5), specific phobia (20.3), GAD (13.4), mania or hypomania (18.6), MDD (17.6)	Age; gender; education	81.8	Minimal waves; short follow-up; change in psychological diagnosis unclear; symptom severity not measured
Swendsen et al. [64] (2010) - USA	Youth (n = 5001)	15-24 years of age; 10-year follow-up; 2-waves	Daily tobacco use (yes or no); nicotine dependence (yes or no)	CIDI	Depression>tobacco; anxiety>tobacco; bipolar>tobacco	Among W1 non-daily tobacco users, significant predictors of W2 onset of daily use included any mood disorder, panic disorder, SAD, specific phobia, GAD, and any anxiety disorder (ORs ranged from 1.6-3.0), whereas MDD, bipolar, agoraphobia, and separation anxiety were non-significant (ORs ranged from 0.8-1.8); among daily tobacco users, significant predictors of W2 onset of nicotine dependence included bipolar, any mood disorder, agoraphobia, and separation anxiety (ORs ranged from 1.9-3.9), whereas MDD, panic disorder, SAD, GAD, and any anxiety disorder were non-significant (ORs ranged from 0.8-1.4)	Age; gender; ethnicity; education; marital status; number of children; region; urbanicity; employment status	72.7	Minimal waves

Tomita et al. [65] (2020) - South Africa	Subsample of youth without depression (N = 4207)	15-19 years of age; 7-year follow-up; 4-waves	Smoking cigarette status (yes or no)	CESD-10	Tobacco>depression	Smoking predicted depression for both males (RR = 1.84, CI = 1.18-2.88) and females (RR = 2.47, CI = 1.15-5.29)	Ethnicity; marital status; education; employment status; household income; urban vs rural residence	63.6	None noted
Trotta et al. [66] (2020) - UK	Youth twins (n = 2232)	12 years of age; 6-year follow-up; 2-waves	Tobacco dependence	Structured interview created by authors	Psychosis>tobacco	Psychosis did not predict later tobacco dependence (RR = 1.00, CI = 0.57-1.75)	Shared familial and genetic factors between twins; gender; age-5 IQ; family SES status; age-12 depression, anxiety, self-harm/suicidality, ADHD, conduct disorder, family psychological history; mother's psychotic symptoms	63.6	Only 2-waves;
Ward et al. [67] (2019) - USA and Canada	Youth at clinical high risk of psychosis (N = 587) and healthy controls (N = 274)	18.5 (4.3) years of age for clinical high risk; 19.7 (4.7) years of age for controls; 2-year follow-up; waves unclear but approximately 3-4	Smoking level (none vs light vs heavy); smoking status (never vs ever)	SIPS	Tobacco>psychosis	Light smoking (OR = 0.90, CI = 0.4-2.2), heavy smoking (OR = 0.3, CI = 0.05-2.3), and status as 'ever smoked' (HR = 1.16, CI = 0.82-1.65) did not predict transition to psychosis	Tobacco use; marijuana use; alcohol use; age; ethnicity; academic performance; academic adjustment; depression; anxiety; social anxiety; daily stressors; life events; perceived discrimination	72.7	Some small cell counts; number of waves unclear
Weiser et al. [68] (2004) - Israel	Youth male military recruits (n = 14, 248)	18 years of age; 10.2 (SD = 3.6) year follow-up; number of waves unclear	Smoking status (yes or no); daily smoking quantity (zero vs 1-9 vs 10+)	Registry diagnoses based on ICD-10 criteria	Tobacco>psychosis	Baseline binary smoking (RR = 1.94, CI = 1.05-3.58) and daily smoking 10+ cigarettes (RR = 2.28, CI = 1.19-4.34) predicted later schizophrenia, but daily smoking 1-9 cigarettes (RR = 1.38, CI = 0.48-4.00) did not	Non-psychotic psychological disorders; adolescent social and intellectual functioning; SES	72.7	Inconsistent follow-up periods; number of waves unclear; schizophrenia diagnosis method unclear; smoking only assessed at baseline; only male sample
Wilens et al. [69] (2016) - USA	Youth with bipolar (N = 105) and youth without bipolar (N = 98)	13.6 (SD = 2.5) years of age for bipolar, 13.7 (SD = 2.1) years of age for controls; 5-year follow-up; 3-waves (but unclear)	Cigarette smoking (levels unclear)	KSADS-E; SCID	Tobacco>bipolar	Maintenance of smoking predicted bipolar status at final follow-up (HR = 3.2, CI = 1.6-6.7); but smoking did not predict persistence of bipolar (HR = 1.5, CI = 0.7-3.2)	SES; parental history of substance use disorder; probands with bipolar;	63.6	Temporal ordering unclear; small sample size; number of waves unclear; levels of predictor unclear; results unclear
Zammit et al. [70] (2003) - Sweden	Youth military recruits (n = 50,087)	18-20 years of age; 27-year follow-up; number of waves unclear	Smoking quantity (non-smokers vs light smokers vs medium smokers vs heavy smokers)	Registry diagnoses based on ICD-8	Tobacco>psychosis	Smoking quantity negatively predicted schizophrenia by final follow-up (HR = 0.8, CI = 0.7-0.9), but did not predict schizophrenia between 0-5 years from baseline (HR = 0.9, CI = 0.7-1.1)	Diagnosis at conscription; poor social integration; IQ; drug use; disturbed behaviour; father's occupation; place of	81.8	Psychological disorder diagnosis method unclear; number of waves unclear;

		21.0 (SD = 1.73) years of age;						upbringing: family SES; family psychiatric history; alcohol problems		smoking only measured at baseline	
Zhang et al. [71] (2018) - Germany	Female youth (n = 3065)	1.5-year follow- up; 2-waves	Smoking status (yes or no)	DIMD-RV	Tobacco>depression	Smoking did not predict incremental variance in MDD (OR = 1.55, CI = 0.90- 2.66)		BMI; alcohol use; alcohol-related problems; physical activity; good physical health	72.7	Only females; minimal waves; short follow-up; MDD and smoking measured as binary variables	

Note: All CIs (confidence intervals) were 95%.

*Testing the reciprocal association between smoking and depressive symptoms from adolescence to adulthood: A longitudinal twin study.

BMI = Body Mass Index; CI = 95% confidence interval; Est. = Estimate; GAD = Generalised Anxiety Disorder; IRR = Incidence Rate Ratio; OR = odds ratio; SAD = Social Anxiety Disorder; SES = socioeconomic status; U = Mann Whitney U Test.

AUDADIS-IV = Alcohol Use Disorder and Associated Disabilities Interview Schedule; BCFPI = Brief Child and Family Phone Interview; BDI-II = Beck Depression Inventory-II; BPRS-PS = Brief Psychiatric Rating Scale; CBCL = Child Behavior Checklist; CES-DC = Center for Epidemiologic Studies Depressive symptoms Scale for Children; CESD = Center for Epidemiologic Studies Depression Scale; CGI-S = Clinical Global Impressions – Severity Scale; DAWBA = Development and Wellbeing Assessment; DICA-R = Diagnostic Interview for Children and Adolescents; DIMD-RV = Diagnostic Interview for Mental Disorders—Research Version; DIS = Diagnostic Interview Schedule; DISC = Diagnostic Interview Schedule for Children; DSS = Depressive Symptoms Scale; FTND = Fagerström Test for Nicotine Dependence; GADS = Generalized Anxiety Disorder Scale; GBI = General Behavior Inventory; KSADS-E = Kiddie Schedule for Affective Disorders-Epidemiologic Version; MCIDI/DIA-X = Munich-Composite International Diagnostic Interview ; MPNI = Multidimensional Peer Nomination Inventory; MSI = Minnesota Smoking Index; PHQ-9 = Patient Health Questionnaire; PLIKSi = Psychosis-Like Symptoms Interview; PLIKSi = Psychosis-like Symptoms interview; RADS = Reynolds Adolescent Depression Scale; RCMAS = Revised Children’s Manifest Anxiety Scale; SCID = Scheduled Clinical Interview Diagnosis; SCL-90 = Hopkins Symptom Checklist; SDQ = Strengths and Difficulties Questionnaire; SIPS = Structured Interview for Prodromal Syndromes; SMFQ = Short Mood and Feelings Questionnaire; SOPS = Scale for Assessment of Prodromal Symptoms; SPIKE = Structured Psychopathological Interview and Rating of the Social Consequences of Psychological Disturbances for Epidemiology; STAS = Spielberg’s Trait Anxiety Scale; TFR = Teacher Report Form; WMH-CIDI = World Mental Health Composite International Diagnostic Interview; YASR = Young Adult Self-Report; YSR = Youth Self-Report; ZSRAS = Zung Self-Rating Anxiety Scale.