

# Appendices

## *Appendix I: Search strategy*

PubMed

Search conducted September 1, 2023

Query	Records Retrieved
<p><b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"</p> <p><b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"</p> <p><b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"</p> <p><b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")</p> <p><b>Search 5:</b> "family-based intervention"</p> <p><b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family-based intervention")</p> <p><b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"</p>	<p><b>1,548</b></p>

**Search 8:** (((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) AND ("family-based intervention" OR "program" OR "intervention")

1 AND 2 AND 3 AND 7

## ProQuest

Search conducted September 12, 2023

Query	Records Retrieved
<b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"	40,692,802
<b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"	8,747,543
<b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"	45,572,180
<b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")	699,495

<p style="text-align: center;"><u>1 AND 2 AND 3</u></p>	
<p><b>Search 5:</b> "family-based intervention"</p>	<p style="text-align: center;">3,739</p>
<p><b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family-based intervention")</p> <p style="text-align: center;"><u>1 AND 2 AND 5</u></p>	<p style="text-align: center;">1,397</p>
<p><b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"</p>	<p style="text-align: center;">138,482,243</p>
<p><b>Search 8:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> ("family-based intervention" OR "program" OR "intervention")</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 7</u></p>	<p style="text-align: center;">418,274</p>
<p><b>Search 9:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention"</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 5</u></p>	<p style="text-align: center;"><b>1,309</b></p>

**Web of Science**

Search conducted September 12, 2023

Query	Records Retrieved
<b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"	1,084,979
<b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"	482,299
<b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"	344,691
<b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")  <u>1 AND 2 AND 3</u>	5,484
<b>Search 5:</b> "family-based intervention"	538
<b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family-based intervention")  <u>1 AND 2 AND 5</u>	30
<b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"	7,190,867
<b>Search 8:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family	17

connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention"	
<u>1 AND 2 AND 3 AND 5</u>	
<b>Search 9:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention" OR "program" OR "intervention"	<b>1,523</b>
<u>1 AND 2 AND 3 AND 7</u>	

## Scopus

Search conducted September 12, 2023

Query	Records Retrieved
<b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"	2,747,667
<b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"	713,435
<b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"	739,620
<b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family	13,676

connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")  <u>1 AND 2 AND 3</u>	
<b>Search 5:</b> "family-based intervention"	1,187
<b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family-based intervention")  <u>1 AND 2 AND 5</u>	96
<b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"	4,725,866
<b>Search 8:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention"  <u>1 AND 2 AND 3 AND 5</u>	68
<b>Search 9:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention" OR "program" OR "intervention"  <u>1 AND 2 AND 3 AND 7</u>	<b>4,733</b>

**Embase**

Search conducted September 12, 2023

Query	Records Retrieved
<b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"	4,641,515
<b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"	807,124
<b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"	304,797
<p><b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")</p> <p style="text-align: center;"><u>1 AND 2 AND 3</u></p>	11,463
<b>Search 5:</b> "family-based intervention"	475
<p><b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family-based intervention")</p> <p style="text-align: center;"><u>1 AND 2 AND 5</u></p>	42
<b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"	2,763,421
<b>Search 8:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior"	17

<p>OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention"</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 5</u></p>	
<p><b>Search 9:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention" OR "program" OR "intervention"</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 7</u></p>	<b>2,239</b>

**CINAHL**

Search conducted September 12, 2023

Query	Records Retrieved
<p><b>Search 1:</b> adolescents OR teenage OR adolescence OR youth OR "young person"</p>	665,837
<p><b>Search 2:</b> "multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior"</p>	170,208
<p><b>Search 3:</b> "family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents"</p>	164,701
<p><b>Search 4:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") AND ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) AND ("family relationship" OR "family</p>	3,871



<p>connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")</p> <p style="text-align: center;"><u>1 AND 2 AND 3</u></p>	
<p><b>Search 5:</b> "family-based intervention"</p>	218
<p><b>Search 6:</b> ((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family-based intervention")</p> <p style="text-align: center;"><u>1 AND 2 AND 5</u></p>	18
<p><b>Search 7:</b> "family-based intervention" OR "program" OR "intervention"</p>	605,405
<p><b>Search 8:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention"</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 5</u></p>	8
<p><b>Search 9:</b> (((adolescents OR teenage OR adolescence OR youth OR "young person") <b>AND</b> ("multiple risk behaviors" OR "sexual behavior" OR smoking OR "alcohol use" OR "risk taking behavior" OR "high risk behavior")) <b>AND</b> ("family relationship" OR "family connectedness" OR "family environment" OR "family dynamics" OR "family relations" OR "parents")) <b>AND</b> "family-based intervention" OR "program" OR "intervention"</p> <p style="text-align: center;"><u>1 AND 2 AND 3 AND 7</u></p>	<b>688</b>