*Included in this document:*

Appendix S1: Results of quality assessment of studies using the EPHPP

Appendix S2: Example search strategy in PsychINFO.

Appendix S3: References of Papers used in the Meta-Analysis

**Appendix S1**

*Results of quality assessment of studies using the EPHPP*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Study** | **Selection Bias** | **Study Design** | **Data Collection** | **Drop-out** | **Overall Rating** |
| Lau  Baytemir, & Yıldız, 2017 | Weak | Weak | Strong | N/A | Weak |
| Bowker, Santo & Adams, 2019 | Moderate | Moderate | Strong | Weak | Moderate |
| Brage, Meridith, & Woodward, 1993 | Moderate | Weak | Strong | Strong | Weak |
| Caputi, Pantaleo & Scaini, 2017 | Moderate | Weak | Strong | N/A | Moderate |
| Danneel et al., 2019 | Moderate | Strong | Strong | Weak | Moderate |
| Ellis, Dumas & Forbes, 2020 | Weak | Moderate | Strong | N/A | Moderate |
| Galanaki et al., 2008 | Strong | Strong | Strong | N/A | Strong |
| Gallagher et al., 2014 | Moderate | Moderate | Strong | Moderate | Moderate |
| Grøholt et al., 2005 | Moderate | Strong | Strong | N/A | Strong |
| Houghton et al., 2020 | Strong | Strong | Strong | N/A | Strong |
| Iranzo et al., 2019 | Strong | Strong | Strong | N/A | Strong |
| Koenig, Isaacs, & Schwartz, 1994 | Weak | Weak | Strong | Strong | Weak |
| Kostak, Dindar, & Dinçkol, 2019 | Strong | Strong | Strong | N/A | Strong |
| Ladd & Ettekal, 2013 | Strong | Strong | Strong | Weak | Moderate |
| Lasgaard et al., 2011 | Strong | Strong | Strong | Strong | Strong |
| Lau, Chan & Lau, 1999 | Strong | Strong | Strong | N/A | Strong |
| Liu et al., 2019 | Strong | Strong | Strong | N/A | Strong |
| Ma, Chow & Chen, 2018 | Moderate | Strong | Strong | N/A | Strong |
| Madjar, Mahlev & Brunstein, 2021 | Moderate | Moderate | Strong | Strong | Strong |
| Mahon, Yarcheski & Yarcheski, 2001 | Moderate | Weak | Strong | N/A | Moderate |
| Moore, & Schultz, 1983 | Weak | Weak | Strong | N/A | Weak |
| Nangle et al., 2003 | Moderate | Moderate | Strong | Weak | Moderate |
| Pedersen et al., 2007 | Strong | Strong | Strong | Moderate | Strong |
| Purwono & French, 2016 | Moderate | Weak | Strong | Strong | Moderate |
| Qualter et al., 2010 | Strong | Strong | Strong | Moderate | Strong |
| Randall & Bohnert, 2009 | Moderate | Moderate | Strong | N/A | Moderate |
| Richardson et al., 2019 | Moderate | Strong | Strong | N/A | Strong |
| Romero & Epkins, 2008 | Moderate | Strong | Strong | N/A | Strong |
| Spithoven et al., 2017 | Weak | Moderate | Strong | Strong | Moderate |
| Upmanyu, Upmanyu & Dhingra, 1988 | Moderate | Moderate | Strong | Weak | Moderate |
| Vanhalst et al., 2012 | Strong | Strong | Strong | Strong | Strong |
| Witvliet et al., 2010 | Moderate | Strong | Strong | Weak | Moderate |
| Wu, Lau, Mo & Lau, 2018 | Moderate | Strong | Strong | N/A | Strong |
| Xu & Chen, 2018 | Moderate | Moderate | Strong | N/A | Strong |
| Zhu, Huebner & Tian, 2019 | Moderate | Moderate | Strong | Moderate | Moderate |

**Appendix S2**

*Example search strategy in PsychINFO.*

* Depression: depress\* OR dysthymi\* OR mood\* OR affect\* OR internal\* disord\* OR low mood\*
* Loneliness: lonel\* OR isolation
* Children: adolesc\* OR preadolesc\* OR boy\* OR girl\* OR child\* or infan\* OR preschool\* OR minor\* OR pediatri\* or pubescen\* OR teen\* OR youth\*

**Appendix S3**

*References of papers included in the meta-analysis*

Baytemir, K., & Yildiz, M. (2017). Multiple Mediation of Loneliness and Negative Emotions in the Relationship between Adolescents’ Social Anxiety and Depressive Symptoms. Anales de Psicología (Murcia, Spain), 33(3), 612–. <https://doi.org/10.6018/analesps.33.3.269211>

Bowker, J.C., Santo, J.B. & Adams, R.E. A Dynamic Examination of the Associations between Shyness, Psychological Difficulties, and Stressful Life Events during Early Adolescence. *J Abnorm Child Psychol* **47,**1183–1195 (2019). <https://doi.org/10.1007/s10802-019-00520-x>

Brage, D., Meridith, W., & Woodward, J. (1993). Correlates of loneliness among midwestern adolescents. Adolescence, 28(111), 685–693.

Caputi, M., Pantaleo, G., & Scaini, S. (2017). Do Feelings of Loneliness Mediate the Relationship between Sociocognitive Understanding and Depressive Symptoms During Late Childhood and Early Adolescence? The Journal of Genetic Psychology, 178(4), 207–216. <https://doi.org/10.1080/00221325.2017.1317629>

Danneel, Nelemans, S., Spithoven, A., Bastin, M., Bijttebier, P., Colpin, H., Van Den Noortgate, W., Van Leeuwen, K., Verschueren, K., & Goossens, L. (2019). Internalizing Problems in Adolescence: Linking Loneliness, Social Anxiety Symptoms, and Depressive Symptoms Over Time. Journal of Abnormal Child Psychology, 47(10), 1691–1705. https://doi.org/10.1007/s10802-019-00539-0 Problems in Adolescence: Linking Loneliness, Social Anxiety Symptoms, and Depressive Symptoms Over Time. J Abnorm Child Psychol 47, 1691–1705 (2019). <https://doi.org/10.1007/s10802-019-00539-0>

Ellis, W. E., Dumas, T. M., & Forbes, L. M. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 52(3), 177-187. <http://dx.doi.org/10.1037/cbs0000215>

Galanaki, Polychronopoulou, S. A., & Babalis, T. K. (2008). Loneliness and Social Dissatisfaction Among Behaviourally At-Risk Children. School Psychology International, 29(2), 214–229. <https://doi.org/10.1177/0143034308090061>

Gallagher, Prinstein, M. J., Simon, V., & Spirito, A. (2014). Social Anxiety Symptoms and Suicidal Ideation in a Clinical Sample of Early Adolescents: Examining Loneliness and Social Support as Longitudinal Mediators. Journal of Abnormal Child Psychology, 42(6), 871–883. <https://doi.org/10.1007/s10802-013-9844-7>

Grøholt, Ekeberg, Ø., Wichstrøm, L., & Haldorsen, T. (2005). Suicidal and Nonsuicidal Adolescents: Different Factors Contribute to Self-Esteem. Suicide & Life-Threatening Behavior, 35(5), 525–535. <https://doi.org/10.1521/suli.2005.35.5.525>

Houghton, Lawrence, D., Hunter, S. C., Zadow, C., Kyron, M., Paterson, R., Carroll, A., Christie, R., & Brandtman, M. (2020). Loneliness Accounts for the Association Between Diagnosed Attention Deficit-Hyperactivity Disorder and Symptoms of Depression Among Adolescents. Journal of Psychopathology and Behavioral Assessment, 42(2), 237–247. <https://doi.org/10.1007/s10862-020-09791-x>

Iranzo, B., Buelga, S., Cava, M.-J., & Ortega-Barón, J. (2019). Cyberbullying, psychosocial adjustment, and suicidal ideation in adolescence. Psychosocial Intervention, 28(2), 75–81. <https://doi.org/10.5093/pi2019a5>

Koenig, L., Isaacs, A., & Schwartz, J. (1994). Sex Differences in Adolescent Depression and Loneliness: Why Are Boys Lonelier if Girls Are More Depressed? Journal of Research in Personality, 28(1), 27–43. <https://doi.org/10.1006/jrpe.1994.1004>

Kostak, A. M., Dindar, İ. & Zafer Dinçkol, R. (2019). Loneliness, Depression, Social Support Levels, and Other Factors Involving the Internet Use of High School Students in Turkey. Int J Ment Health Addiction 17, 1521–1534. <https://doi.org/10.1007/s11469-018-9927-3>

Ladd, G., & Ettekal, I. (2013). Peer-related loneliness across early to late adolescence: Normative trends, intra-individual trajectories, and links with depressive symptoms. Journal of Adolescence, 36(6), 1269–1282. <https://doi.org/10.1016/j.adolescence.2013.05.004>

Lasgaard, M., Lasgaard, M., Goossens, L., Goossens, L., Elklit, A., & Elklit, A. (2011). Loneliness, Depressive Symptomatology, and Suicide Ideation in Adolescence: Cross-Sectional and Longitudinal Analyses. Journal of Abnormal Child Psychology, 39(1), 137–150. <https://doi.org/10.1007/s10802-010-9442-x>

Lau, S. Dennis W. K. Chan & Patrick S. Y. (1999) Facets of Loneliness and Depression Among Chinese Children and Adolescents. The Journal of Social Psychology, 139:6, 713-729, DOI: 10.1080/00224549909598251

Liu, J., Bowker, J. C., Coplan, R. J., Yang, P., Li, D., & Chen, X. (2019). Evaluating Links Among Shyness, Peer Relations, and Internalizing Problems in Chinese Young Adolescents. Journal of research on adolescence : the official journal of the Society for Research on Adolescence, 29(3), 696–709. <https://doi.org/10.1111/jora.12406>

Ma, Chow, C. M., & Chen, W.-T. (2018). The moderation of culturally normative coping strategies on Taiwanese adolescent peer victimization and psychological distress. Journal of School Psychology, 70, 89–104. <https://doi.org/10.1016/j.jsp.2018.08.002>

Madjar, N., Sarel-Mahlev, E., & Brunstein Klomek, A. (2021). Depression Symptoms as Mediator Between Adolescents’ Sense of Loneliness at School and Nonsuicidal Self-Injury Behaviors. Crisis : the Journal of Crisis Intervention and Suicide Prevention, 42(2), 144–151. <https://doi.org/10.1027/0227-5910/a000702>

Mahon, N., Yarcheski, A., & Yarcheski, T. (2001). Mental health variables and positive health practices in early adolescents. Psychological Reports, 88(3 Pt 2), 1023–1030. <https://doi.org/10.2466/PR0.88.3.1023-1030>

Moore, D., & Schultz, J. (1983). Loneliness at adolescence: Correlates, attributions, and coping. Journal of Youth and Adolescence, 12(2), 95–100. <https://doi.org/10.1007/BF02088307>

Nangle, Erdley, C. A., Newman, J. E., Mason, C. A., & Carpenter, E. M. (2003). Popularity, Friendship Quantity, and Friendship Quality: Interactive Influences on Children’s Loneliness and Depression. Journal of Clinical Child and Adolescent Psychology, 32(4), 546–555. <https://doi.org/10.1207/S15374424JCCP3204_7>

Pedersen, Vitaro, F., Barker, E. D., & Borge, A. I. H. (2007). The Timing of Middle-Childhood Peer Rejection and Friendship: Linking Early Behavior to Early-Adolescent Adjustment. Child Development, 78(4), 1037–1051. <https://doi.org/10.1111/j.1467-8624.2007.01051.x>

Purwono, U., & French, D. (2016). Depression and its relation to loneliness and religiosity in Indonesian Muslim adolescents. *Mental Health, Religion & Culture*, *19*(3), 218–228. <https://doi.org/10.1080/13674676.2016.1165190>

Qualter, Brown, S. L., Munn, P., & Rotenberg, K. J. (2009). Childhood loneliness as a predictor of adolescent depressive symptoms: an 8-year longitudinal study. European Child & Adolescent Psychiatry, 19(6), 493–501. <https://doi.org/10.1007/s00787-009-0059-y>

Randall, & Bohnert, A. M. (2009). Organized Activity Involvement, Depressive Symptoms, and Social Adjustment in Adolescents: Ethnicity and Socioeconomic Status as Moderators. Journal of Youth and Adolescence, 38(9), 1187–1198. <https://doi.org/10.1007/s10964-009-9417-9>

Richardson, C., Oar, E., Fardouly, J., Magson, N., Johnco, C., Forbes, M., & Rapee, R. (2019). The Moderating Role of Sleep in the Relationship Between Social Isolation and Internalising Problems in Early Adolescence. *Child Psychiatry and Human Development*, *50*(6), 1011–1020. <https://doi.org/10.1007/s10578-019-00901-9>

Romero, L. E., & Epkins, C. C. (2008). Girls' cognitions of hypothetical friends: Are they related to depression, loneliness, social anxiety and perceived similarity? Journal of Social and Personal Relationships, 25(2), 311–332. <https://doi.org/10.1177/0265407507087961>

Spithoven, A., Lodder, G., Goossens, L., Bijttebier, P., Bastin, M., Verhagen, M., & Scholte, R. (2017). Adolescents’ loneliness and depression associated with friendship experiences and well-being: A person-centered approach. Journal of Youth and Adolescence, 46(2), 429–441. <https://doi.org/10.1007/s10964-016-0478-2>

Upmanyu, V. V., Upmanyu, S., & Dhingra, M. (1988). Social impact, social preference, loneliness and depression. Psychological Studies, 33(3), 179–184.

Vanhalst, J., Klimstra, T., Luyckx, K., Scholte, R., Engels, R., & Goossens, L. (2012). The interplay of loneliness and depressive symptoms across adolescence: Exploring the role of personality traits. Journal of Youth and Adolescence, 41(6), 776–787. <https://doi.org/10.1007/s10964-011-9726-7>

Witvliet, M., Brendgen, M., van Lier, P., Koot, H., & Vitaro, F. (2010). Early adolescent depressive symptoms: prediction from clique isolation, loneliness, and perceived social acceptance. Journal of Abnormal Child Psychology, 38(8), 1045–1056. <https://doi.org/10.1007/s10802-010-9426-x>

Wu, Lau, J. T. F., Mo, P. K. H., & Lau, M. M. C. (2018). Psychological distress and resilience as risk and protective factors of psychoactive substance use among Chinese nonengaged youth. Journal of Community & Applied Social Psychology, 28(2), 49–64. <https://doi.org/10.1002/casp.2340>

Xu, J., Xu, J., Chen, P., & Chen, P. (2018). The rural children’s loneliness and depression in Henan, China: the mediation effect of self-concept. Social Psychiatry and Psychiatric Epidemiology, 54(9), 1101–1109. <https://doi.org/10.1007/s00127-018-1636-5>

Zhu, X., Huebner, E. S., & Tian, L. (2019). A person-centered longitudinal analysis of adolescents’ loneliness and social anxiety: Clusters, predictors, and outcomes. School Psychology, 34(5), 576–589. <https://doi.org/10.1037/spq0000328>