

**Supplemental Table 2: Description of n=50 obesity management intervention studies included by intervention name**

| <b>Intervention/<br/>program name</b>   | <b>Author and<br/>year</b>         | <b>Description vs.<br/>Evaluation</b> | <b>Total sample size at<br/>baseline</b>    | <b>Study design</b>                                | <b>FST/model that guided<br/>intervention development</b>          | <b>Other theories that guided<br/>intervention development</b> |
|---|------------------------------------|---------------------------------------|---|--|--|--|
| <b>Creating Health<br/>Environments for<br/>Chicago Kids<br/>(CHECK) Trial</b>    | Appelhans,<br>2020 <sup>1</sup>    | Description                           | 266 children and their<br>parents/guardians | RCT  | Socioecological Model<br>Parents as Agents of<br>Change            | n/a  |
| <b>Dyad plus</b>  | Dilley, 2020 <sup>2</sup>          | Description                           | 45 parent-adolescent dyads                  | Pilot RCT  | FST, Familial Approach to<br>the Treatment of Childhood<br>Obesity | Social Cognitive Theory, Self-<br>Determination Theory         |
| <b>ENTREN-F</b>   | Rojo, 2022 <sup>3</sup>            | Description                           | 165 children and their<br>parents/guardians | RCT protocol                                       | FST  | Cognitive Behavioural Therapy                                  |
|   | Rojo, 2022 <sup>4</sup>            | Evaluation                            | 165 children and their<br>parents/guardians | Secondary analysis<br>of a RCT                     | FST  | Cognitive Behavioural Therapy                                  |
| <b>Exergaming for<br/>Health</b>  | Christison, 2016 <sup>5</sup>      | Evaluation                            | 80 children and their<br>parents/guardians  | RCT  | FST  | Social Cognitive Theory  |
| <b>Familias Unidas<br/>(United Families<br/>for Health and<br/>Wellness-FUHW)</b> | Prado, 2020 <sup>6</sup>           | Evaluation                            | 280 adolescents and their<br>parents        | RCT  | FST, Eco-developmental<br>framework                                | n/a  |
|   | Perrino, 2022 <sup>7</sup>         | Evaluation                            | 280 adolescents and their<br>parents        | Secondary analysis<br>of a RCT                     | FST, Eco-developmental<br>framework                                | n/a  |
| <b>Families<br/>Improving<br/>Together (FIT)</b>                                  | Alia, 2015 <sup>8</sup>            | Description                           | 19 adolescent-parent dyads                  | Process evaluation<br>of RCT                       | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
|   | Sweeney, 2019 <sup>9</sup>         | Evaluation                            | 41 adolescents and 41 parents               | Qualitative study                                  | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
|   | Wilson, 2015 <sup>10</sup>         | Description                           | 520 families (expected)                     | RCT Protocol                                       | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
|   | Wilson, 2018 <sup>11</sup>         | Evaluation                            | 125 parent-adolescent dyads                 | RCT  | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
|   | Wilson, 2021 <sup>12</sup>         | Evaluation                            | 241 parent/caregiver-<br>adolescent dyads   | RCT  | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
|   | Quattlebaum,<br>2021 <sup>13</sup> | Evaluation                            | 127 parent-adolescent dyads                 | Secondary analysis<br>of baseline data of a<br>RCT | FST  | n/a  |
|   | Wilson, 2022 <sup>14</sup>         | Evaluation                            | 241 adolescent-caregiver<br>dyads           | RCT  | FST  | Self-Determination Theory,<br>Social Cognitive Theory          |
| <b>Families<br/>Improving<br/>Together-</b>                                       | Biggs, 2023 <sup>15</sup>          | Description                           | 6 families                                  | Pilot RCT  | FST  | Social Cognitive Theory, Self-<br>Determination Theory         |

|  |                                |             |                                   |  |   |   |
|--|--------------------------------|-------------|-----------------------------------|--|---|---|
| <b>Telehealth (FIT-T)</b>                                  |                                |             |                                   |  |   |   |
| <b>Families on the Move (FOTM)</b>                         | James, 2008 <sup>16</sup>      | Description | 18 children and 14 mothers        | Pilot feasibility study using mixed methods                      | FST   | The Family Based Health Centered Approach (Golan & Weizman, 2001) |
| <b>Family Connections</b>                                  | Estabrooks, 2009 <sup>17</sup> | Evaluation  | 220 parent-child dyads            | RCT  | Social Ecologic Theory (model proposed by Golan et al. - Parents as Agents of Change) | n/a   |
|  | Zoellner, 2019 <sup>18</sup>   | Description | 116-150 (expected)                | RCT Protocol   | Social Ecologic Theory (model proposed by Golan et al. - Parents as Agents of Change) | n/a   |
|  | Zoellner, 2022 <sup>19</sup>   | Evaluation  | 139 children                      | RCT  | Social Ecologic Theory (model proposed by Golan et al. - Parents as Agents of Change) | n/a   |
| <b>Family Weight School Model</b>                          | Nowicka, 2008 <sup>20</sup>    | Evaluation  | 72 adolescents and their parents  | Quasi-experimental design (with control group, no randomization) | Systemic Family Therapy   | Solution-focused Therapy (Shazer, Berg & colleagues)              |
| <b>Fit Kids / Fit Families (FKFF)</b>                      | Joose, 2008 <sup>21</sup>      | Evaluation  | 68 children and their families    | Pre- and post-analysis of intervention                           | FST   | n/a   |
| <b>Diabetes Prevention Program among Latino Youths</b>     | Soltero, 2017 <sup>22</sup>    | Description | 120 adolescents (expected)        | RCT Protocol   | Expanded Eco-developmental Model  | Social Cognitive Theory   |
|  | Peña, 2022 <sup>23</sup>       | Evaluation  | 117 adolescents and their parents | RCT  | Expanded Eco-developmental Model  | Social Cognitive Theory   |
| <b>Lighter Living program (LiLi)</b>                       | Orban, 2014 <sup>24</sup>      | Evaluation  | 30 parents and 17 children        | RCT  | Systems Theory  | ValMO model and an eco-cultural perspective                       |
| <b>Lund Overweight and Obesity Preschool Study (LOOPS)</b> | Onnerfalt, 2012 <sup>25</sup>  | Description | 240 parents (expected)            | RCT protocol   | FST / Ecological systems theory   | N/A   |
|  | Law, 2014 <sup>26</sup>        | Evaluation  | 13,998 children                   | Mixed methods  | Systems Theory  | Learning Theory, Social Cognitive Theory                          |

|  |                                     |             |                                     |   |   |  |
|--|-------------------------------------|-------------|-------------------------------------|---|---|--|
| <b>Mind, Exercise, Nutrition, Do it! (MEND)</b>                              | Sacher, 2010 <sup>27</sup>          | Evaluation  | 116 children and their parents      | RCT                                     | Systems Theory                                  | Learning Theory, Social Cognitive Theory               |
|  | Wilson, 2019 <sup>28</sup>          | Evaluation  | 549 children and their families     | Secondary analysis of RCT               | Social Ecological Model                         | Social Cognitive Theory                                |
| <b>Motivational + family weight loss intervention (M + FWL)</b>              | Kitzman-Ulrich, 2011 <sup>29</sup>  | Evaluation  | 20 families                         | Pilot RCT                               | FST   | Self-Determination Theory, Cognitive Dissonance Theory |
| <b>Multidisciplinary family-based behavioural therapy for obesity (FBBT)</b> | Chamay Weber, 2016 <sup>30</sup>    | Evaluation  | 23 parents and 21 adolescents       | Qualitative study                       | FST   | Cognitive Behavioural Theory                           |
| <b>Multidisciplinary Treatment Program</b>                                   | Bocca, 2014 <sup>31</sup>           | Evaluation  | 75 children                         | RCT                                     | FST   | Developmental Psychology, Learning Theory              |
|  | Bocca, 2018 <sup>32</sup>           | Evaluation  | 75 children                         | RCT                                     | FST   | Developmental Psychology, Learning Theory              |
| <b>Multifamily Therapy plus Psychoeducation</b>                              | Kitzman-Ulrich, 2009 <sup>33</sup>  | Evaluation  | 42 adolescent and their parents     | RCT                                     | FST   | Social Cognitive Theory                                |
| <b>Multisystemic Therapy</b>   | Ellis, 2010 <sup>34</sup>           | Evaluation  | 49 adolescents and their families   | Pilot RCT with repeated measures design | Multisystemic Therapy                           | Cognitive Behavioural Theory                           |
|  | Idalski Carcone, 2011 <sup>35</sup> | Description | 10 adolescents and their parents    | Qualitative phenomenology               | Multisystemic Therapy                           | n/a  |
|  | Naar-King, 2009 <sup>36</sup>       | Evaluation  | 49 adolescents and their caregivers | Pilot RCT                               | Multisystemic Therapy, Social-ecological Theory | Cognitive Behavioural Theory                           |
| <b>No name</b>   | Flodmark, 1993 <sup>37</sup>        | Evaluation  | 94 children                         | Clinical Trial                          | FST   | n/a  |
| <b>Parents as Agents of Change (PAC)</b>                                     | Ball, 2017 <sup>38</sup>            | Description | 58 families                         | Intervention mapping & Pilot study      | FST   | Cognitive Behavioural Theory                           |
|  | Ball, 2012 <sup>39</sup>            | Description | 90 families (expected)              | RCT Protocol                            | FST / Parents as Agents of Change               | n/a  |

|   |                               |             |   |  |  |  |
|---|-------------------------------|-------------|---|--|--|--|
|   | Spence, 2017 <sup>40</sup>    | Evaluation  | 52 families                             | RCT                                    | FST/Parents as Agents of Change; Ecologic Systems Theory | Cognitive Behavioural Theory                         |
|   | Spence, 2023 <sup>41</sup>    | Evaluation  | 52 families                             | RCT                                    | FST/Parents as Agents of Change; Ecologic Systems Theory | Cognitive Behavioural Theory                         |
| <b>Positively Fit</b>   | Steele, 2011 <sup>42</sup>    | Evaluation  | 93 families                             | RCT                                    | Multisystemic Theory                                     | n/a  |
| <b>SHINE</b>  | St George, 2013 <sup>43</sup> | Evaluation  | 73 adolescents-caregiver dyads          | Multiple Cohort RCT                    | FST  | Social Cognitive Theory, Self-Determination Theory   |
|   | St George, 2018 <sup>44</sup> | Evaluation  | 89 adolescents and their parents        | Multiple Cohort RCT                    | FST  | Social Cognitive Theory, Self-Determination Theory   |
| <b>Solution-focused family therapy</b>                                    | Nowicka, 2007 <sup>45</sup>   | Evaluation  | 44 children and their parents           | Pre- and post-analysis of intervention | Systemic Family Therapy                                  | Solution-focused Therapy (Shazer, Berg & colleagues) |
| <b>Standard Behavioral Treatment + Enhanced Parenting (SBT + EP)</b>      | Hadley, 2015 <sup>46</sup>    | Evaluation  | 38 mother-adolescent dyads              | Qualitative study post RCT             | FST  | n/a  |
|   | Jelalian, 2015 <sup>47</sup>  | Evaluation  | 49 adolescents and a caregiver          | RCT                                    | FST  | n/a  |
| <b>T.A.F.F. (Telephone based Adiposity prevention For Families) study</b> | Herget, 2015 <sup>48</sup>    | Evaluation  | 154 adolescents                         | RCT                                    | Solution-Focused Systemic Therapy                        | n/a  |
|   | Markert, 2014 <sup>49</sup>   | Evaluation  | 303 children and their families         | RCT                                    | Solution-Focused Systemic Therapy                        | n/a  |
|   | Markert, 2013 <sup>50</sup>   | Description | 303 candidates started the intervention | RCT Protocol                           | Systems Theory   | n/a  |

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