

## Appendix 1

| Study ID | Author & Year                | Nation/Region        | Study Type                          | Total Sample Size            | Age Group                      | Core Outcome                                           | BMI-Wellbeing Relationship Direction                                                 |
|----------|------------------------------|----------------------|-------------------------------------|------------------------------|--------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------|
| 01       | Agner et al., 2009           | USA                  | Cross-sectional survey              | 383                          | Older adults (65+)             | BMI, health, and happiness                             | Indirect: BMI impacts happiness via perceived health                                 |
| 02       | Bener & Tewfik, 2006         | Qatar                | Cross-sectional survey              | 800                          | Adolescent females (12-18)     | BMI, body image, and psychological distress            | Negative: Extreme dieting linked to higher BMI and body dissatisfaction              |
| 03       | Berge et al., 2014           | USA                  | 10-year longitudinal study          | 1,853                        | Young adults (18-30)           | Relationship status, BMI, and health behaviors         | Mixed: Marriage linked to higher obesity risk in men, lower in women                 |
| 04       | Akers & Harding, 2021        | USA                  | Secondary data analysis             | 10,000 + (Add Health)        | Young adult women              | Chronic obesity and romantic relationship satisfaction | Negative: Adolescent-onset chronic obesity linked to lower relationship satisfaction |
| 05       | Bian et al., 2018            | Australia, UK, China | Cross-sectional survey              | 23,537                       | Adults (18+)                   | Social networks, BMI, and subjective well-being (SWB)  | Indirect: Informal social networks moderate BMI-SWB links across cultures            |
| 06       | Bourassa et al., 2017        | USA                  | Qualitative study                   | 56                           | Adolescents/parents            | Obesity management barriers and well-being             | Indirect: Mental health barriers mediate obesity and well-being in youth             |
| 07       | Godoy-Izquierdo et al., 2020 | Spain                | Cross-sectional correlational study | 100                          | Adults with overweight/obesity | BMI, body image, stigma, and happiness                 | Mixed: Body satisfaction/positivity buffer negative BMI-happiness links              |
| 08       | Clark & Ettilé, 2011         | France               | Cross-sectional study               | 19,899 adults; 6,555 couples | Adults (18+)                   | Spousal BMI, life satisfaction, and social contagion   | Indirect: Partner BMI influences individual BMI and well-being via social contagion  |

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| 09 | Conrads<br>on et al.,<br>2022                 | Global            | Scoping<br>review                   | 30+<br>studies   | Women<br>with<br>obesity    | Positive<br>psychological<br>well-being<br>(PPWB) and<br>obesity | Negative: Obesity<br>generally linked to lower<br>PPWB in women                                 |
| 10 | Cornelis<br>se-<br>Vermaat<br>et al.,<br>2006 | Netherla<br>nds   | Cross-<br>sectional<br>survey       | 700              | Adults<br>(18+)             | BMI, perceived<br>health, and<br>happiness                       | Indirect: BMI impacts<br>happiness via perceived<br>health and<br>socioeconomic factors         |
| 11 | Creese<br>et al.,<br>2023                     | UK                | Longitud<br>inal<br>cohort<br>study | 12,450           | Adolesc<br>ents (11-<br>17) | BMI, body<br>image, and<br>mental health                         | Indirect: Body<br>image/self-esteem<br>mediate BMI-mental<br>health links                       |
| 12 | Das et<br>al., 2020                           | Global            | Literatur<br>e review               | 140+<br>articles | General<br>populati<br>on   | SWB<br>determinants<br>and BMI                                   | Indirect:<br>SES/health/social support<br>consistently link BMI<br>and SWB                      |
| 13 | Gersten<br>blüth &<br>Rossi,<br>2013          | Chile,<br>Uruguay | Cross-<br>sectional<br>survey       | 2,388            | Adults<br>(18+)             | Self-reported<br>health, BMI, and<br>life satisfaction           | Positive: Better health<br>(linked to normal BMI)<br>directly causes higher<br>happiness        |
| 14 | Carr &<br>Friedma<br>n, 2006                  | USA               | Cross-<br>sectional<br>survey       | 3,656            | Adults<br>(18+)             | BMI, weight<br>stigma, and<br>interpersonal<br>relationships     | Negative: Childhood<br>overweight linked to<br>strained family<br>relationships in<br>adulthood |
| 15 | Kasman<br>&<br>Kasman,<br>2020                | EU<br>Countries   | Cross-<br>national<br>analysis      | 27 EU<br>nations | General<br>populati<br>on   | BMI, income,<br>and happiness                                    | Non-linear: Inverted U-<br>shaped BMI-happiness<br>relationship in EU<br>countries              |
| 16 | Kawami<br>chi et<br>al., 2016                 | Japan             | Cross-<br>sectional<br>study        | 113              | Young<br>adults<br>(18-30)  | Romantic<br>relationships,<br>BMI, and<br>happiness              | Indirect: Romantic<br>relationships moderate<br>BMI-happiness links via<br>reward processing    |
| 17 | Kurniaw<br>an et al.,<br>2024                 | Burkina<br>Faso   | Cross-<br>sectional<br>analysis     | 2,291            | Older<br>adults<br>(40+)    | Relationship<br>satisfaction,<br>BMI, and                        | Positive: Higher<br>relationship satisfaction<br>linked to higher BMI in                        |

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|    |                       |                          |                          |                          |                          | metabolic health                                   | older adults                                                                               |
| 18 | Li, S. et al., 2018   | China                    | Cross-sectional survey   | 22,586                   | Urban adults (18+)       | Happiness and BMI                                  | Positive: Higher happiness linked to elevated BMI ("laugh and grow fat" effect)            |
| 19 | Li & Cheng, 2015      | Global                   | Cross-cultural review    | 50+ studies              | General population       | Family/friendships, culture, and SWB               | Indirect: Collectivist culture buffers BMI-related SWB deficits via family support         |
| 20 | Lin et al., 2023      | Taiwan                   | Cross-sectional analysis | 10,638                   | Young adults (18-44)     | Happiness, BMI, and obesity risk                   | Negative: Obesity linked to lower happiness in young Taiwanese adults                      |
| 21 | Lipowska et al., 2022 | Poland                   | Cross-sectional analysis | 680 families             | Preschool children (5yo) | Obesity, gender stereotypes, and happiness         | Mixed: Gendered body type stereotypes link BMI to perceived happiness in children          |
| 22 | Liu et al., 2022      | China                    | Cross-sectional analysis | 29,026                   | Adults (18+)             | BMI, happiness, and mediating pathways             | Non-linear: Inverted U-shaped BMI-happiness relationship, peak at BMI=23.17                |
| 23 | Sato, 2021            | USA, China               | Cross-national survey    | 10,106                   | Adults (18+)             | Obesity, culture, and SWB                          | Mixed: Obesity linked to higher happiness in Chinese men, no significant link in US adults |
| 24 | Mader & Franzen, 2025 | Germany, Switzerland, UK | Longitudinal panel study | 2,185,991                | Adults (18+)             | Social capital, BMI, and life satisfaction         | Indirect: Social support moderates BMI-related well-being deficits                         |
| 25 | Markey et al., 2022   | USA                      | Cross-sectional study    | 500 adults (250 couples) | Adults (18+)             | Romantic relationships, weight perception, and BMI | Mixed: Relationship quality moderates partner weight perception and BMI                    |
| 26 | Miao & Wu, 2021       | Hong Kong, Urban China,  | Cross-sectional survey   | 5,646                    | Older adults (60+)       | Living arrangements, social participation,         | Indirect: Cultural context moderates social support and well-being in older adults         |

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|    |                         | Taiwan    |                          |             |                                  | and happiness                                               |                                                                                            |
| 27 | Oksel et al., 2015      | Turkey    | Cross-sectional study    | 586         | Adults (18-82)                   | Obesity perception, BMI, and well-being                     | Indirect: Cultural norms and health awareness mediate BMI and well-being                   |
| 28 | Schmidt et al., 2023    | Global    | Systematic review        | 30+ studies | Adults in romantic relationships | Weight stigma, BMI, and relationship functioning            | Negative: Weight stigma (not BMI itself) is the primary driver of relationship dysfunction |
| 29 | Sobal et al., 2009      | USA       | Longitudinal survey      | 3,824       | Women (29-37)                    | BMI, weight status, and relationship quality                | Weak/No significant direct link between BMI and relationship quality in women              |
| 30 | Sohn, 2017              | Indonesia | Cross-sectional analysis | 12,000      | Adults (15+)                     | Obesity, SES, and happiness                                 | Positive: Obesity linked to higher happiness in Indonesia, mediated by high SES            |
| 31 | Ul-Haq et al., 2014     | UK        | Cross-sectional analysis | 163,066     | Middle-aged adults               | Adiposity, self-rated health, and happiness                 | Negative: Obesity adversely affects self-rated health and happiness, stronger in women     |
| 32 | Viner et al., 2006      | UK        | Cross-sectional study    | 2,789       | Adolescents (11-14)              | Weight perception, dieting, BMI, and psychological distress | Indirect: Weight stigma and body image mediate BMI and mental health in adolescents        |
| 33 | Williams & Merten, 2013 | USA       | Qualitative study        | 50          | Adult women                      | Obesity, intimate relationships, and well-being             | Negative: Obesity hinders intimate relationship quality via body image and stigma          |