**Appendix**

**Appendix Table 1:** Sample size in 2014-2016 Gallup World Poll surveys

**Appendix Table 2:** Questions used to measure mental well-being, food insecurity and social support

**Appendix Table 3:** Unadjusted relationships between food insecurity, social support types and mental well-being in Sub-Saharan Africa using random-effect random slope model at country level

**Appendix Table 4:** Adjusted relationships between food insecurity, social support types and mental well-being in Sub-Saharan Africa using random-effect random slope model at country level

**Appendix Table 5:** Distribution of demographic variables of the included and excluded sample

**Appendix Table 6:** Adjusted relationship between food insecurity, social support types and positive experience index (derived from at least 4 items) in Sub-Saharan Africa using random-effect random slope model at country level

**Appendix Figure 1:** Eigenvalues estimated from Principal Component Analysis and parallel analysis among the six social support variables

**Appendix Figure 2:** Country-specific univariate association between social support and Negative Experience Index

**Appendix Figure 3:** Country-specific univariate association between social support and Positive Experience Index

**Appendix Figure 4:** Country-specific univariate association between FIES score and mental well-being

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| **Appendix Table 1:** Sample size in 2014-2016 Gallup World Poll surveys | | | | |
| **Country** | **2014** | **2015** | **2016** | **Country total** |
| Angola | 1000 | 0 | 0 | 1,000 |
| Benin | 1000 | 1000 | 1000 | 3,000 |
| Botswana | 1000 | 1000 | 1000 | 3,000 |
| Burkina Faso | 1000 | 1000 | 1000 | 3,000 |
| Burundi | 1000 | 0 | 0 | 1,000 |
| Cameroon | 1000 | 1000b | 1000b | 3,000 |
| Central African Rep | 0 | 0 | 1000e | 1,000 |
| Chad | 1000c | 1000c | 1000c | 3,000 |
| Congo Brazzaville | 1000 | 1000 | 1000 | 3,000 |
| Congo Kinshasa | 1000b | 1000b | 1000c | 3,000 |
| Ethiopia | 1004 | 1000a | 1000 | 3,004 |
| Gabon | 1008 | 1000 | 1000 | 3,008 |
| Ghana | 1000 | 1000 | 1000 | 3,000 |
| Guinea | 1000 | 1000 | 1000 | 3,000 |
| Ivory Coast | 1000 | 1000 | 1000 | 3,000 |
| Kenya | 1000 | 1000 | 1000 | 3,000 |
| Lesotho | 0 | 0 | 1000 | 1,000 |
| Liberia | 1000 | 1000 | 1000 | 3,000 |
| Madagascar | 1008d | 1000c | 1000c | 3,008 |
| Malawi | 1000 | 1000 | 1000 | 3,000 |
| Mali | 1000c | 1000c | 1000c | 3,000 |
| Mauritania | 1000 | 1000 | 1000 | 3,000 |
| Mauritius | 1000 | 0 | 1000 | 2,000 |
| Mozambique | 0 | 1000 | 0 | 1,000 |
| Namibia | 1000 | 0 | 0 | 1,000 |
| Niger | 1008 | 1000 | 1000 | 3,008 |
| Nigeria | 1000a | 1000a | 1000a | 3,000 |
| Rwanda | 1000 | 1000 | 1000 | 3,000 |
| Senegal | 1000f | 1000 | 1000 | 3,000 |
| Sierra Leone | 1008 | 1000 | 1000 | 3,008 |
| Somalia | 1000d | 1000d | 1191d | 3,191 |
| South Africa | 1000 | 1000 | 1000 | 3,000 |
| South Sudan | 1000e | 1000d | 1000e | 3,000 |
| Sudan | 1000d | 0 | 0 | 1,000 |
| Tanzania | 1008 | 1000 | 1000 | 3,008 |
| Togo | 1000 | 1000 | 1000 | 3,000 |
| Uganda | 1000 | 1000 | 1000 | 3,000 |
| Zambia | 1000 | 1000 | 1000 | 3,000 |
| Zimbabwe | 1000 | 1000 | 1000 | 3,000 |
| **Year total** | **36,044** | **32,000** | **34,191** | **102,235** |
| a. Percent of total population excluded due to security concerns was less than 10%. | | | | |
| b. Percent of total population excluded due to security concerns was 10-19%. | | | | |
| c. Percent of total population excluded due to security concerns was 20-29%. | | | | |
| d. Percent of total population excluded due to security concerns was 30-39%. | | | | |
| e. Percent of total population excluded due to security concerns was 40-44%. | | | | |
| f. The sample has a larger- than- expected proportion of respondents that who have reported completing secondary education when compared with the data used for post-stratification weighting. | | | | |

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| **Appendix Table 2:** Questions used to measure mental well-being, food insecurity and social support | | |  |
| **Module / domain** | **Label used in analysis or question #** | **Text** | **Response options** |
| **Negative Experience Index** | **NEI** | **Now, please think about yesterday, from the morning until the end of the day. Think about where you were, what you were doing, who you were with, and how you felt.** |  |
|  | 1 | Did you experience physical pain during a lot of the day yesterday? | Yes/ No/ DK/ RF |
|  | 2 | Did you experience worry during a lot of the day yesterday? | Yes/ No/ DK/ RF |
|  | 3 | Did you experience sadness during a lot of the day yesterday? | Yes/ No/ DK/ RF |
|  | 4 | Did you experience stress during a lot of the day yesterday? | Yes/ No/ DK/ RF |
|  | 5 | Did you experience anger during a lot of the day yesterday? | Yes/ No/ DK/ RF |
| **Positive Experience Index** | **PEI** | **Now, please think about yesterday, from the morning until the end of the day. Thank you where you were, what you were doing, who you were with, and how you felt.** |  |
|  | 1 | Did you feel well-rested yesterday? | Yes/ No/ DK/ RF |
|  | 2 | Were you treated with respect all day yesterday? | Yes/ No/ DK/ RF |
|  | 3 | Did you smile or laugh a lot yesterday? | Yes/ No/ DK/ RF |
|  | 4 | Did you learn or do something interesting yesterday? | Yes/ No/ DK/ RF |
|  | 5 | Did you experience enjoyment during a lot of the day yesterday? | Yes/ No/ DK/ RF |
| **Food Insecurity Experience Scale** | **FIES** | **Now I would like to ask you some questions about food. During the last 12 months, was there a time when:** |  |
|  | 1 | …you were worried you would not have enough food to eat because of a lack of money or other resources? | Yes/ No/ DK/ RF |
|  | 2 | …you were unable to eat healthy and nutritious food because of a lack of money or other resources? | Yes/ No/ DK/ RF |
|  | 3 | …you ate only a few kinds of foods because of a lack of money or other resources? | Yes/ No/ DK/ RF |
|  | 4 | …you had to skip a meal because there was not enough money or other resources to get food? | Yes/ No/ DK/ RF |
|  | 5 | …you ate less than you thought you should because of a lack of money or other resources? | Yes/ No/ DK/ RF |
|  | 6 | …your household ran out of food because of a lack of money or other resources? | Yes/ No/ DK/ RF |
|  | 7 | …you were hungry but did not eat because of there was not enough money or other resources for food? | Yes/ No/ DK/ RF |
|  | 8 | …you went without eating for a whole day because of a lack of money or other resources? | Yes/ No/ DK/ RF |
| **Social support** | **SS** |  |  |
|  | Perceived | If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not? | Yes/ No/ DK/ RF |
|  | Foreign perceived | Do you have relatives or friends who are living in another country whom you can count on to help you when you need them, or not? | Yes/ No/ DK/ RF |
|  | Received | In the past 12 months, did this household receive help in the form of money or goods from another individual? | Yes/ No/ DK/ RF |
|  | Given | In the past 12 months, did this household send help in the form of money or goods to another individual? | Yes/ No/ DK/ RF |
|  | Integrative | In the city or area where you live, are you satisfied or dissatisfied with the opportunities to meet people and make friends | Satisfied/ Dissatisfied/ DK/ RF |
|  | Emotional | Thinking about your life in general, please rate your level of agreement with each of the following using a five-point scale: Your friends and family give you positive energy every day | Strongly disagree/ Disagree/ Neutral/ Agree/ Strongly agree/ DK/ RF |
| DK, Don't know; RF, refused. | | |  |

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| **Appendix Table 3:** Unadjusted relationship between food insecurity, social support types and mental well-being in Sub-Saharan Africa using random-effect random slope model at country level | | | | | | | | |
|  |  | Perceived | Foreign perceived | Received | Given | Integrative | Emotional |
| ***Negative Experience Index (NEI)*** | | | | | | | | |
|  | **N** | 96491 | 63965 | 94545 | 94146 | 94455 | 64193 |
|  | **Marginal function** |  |  |  |  |  |  |
|  | Difference in mean experience score (ref. group = without type of social support) | **-4.06 (-5.45, -2.68)** | -0.62 (-1.79, 0.54) | 0.93 (-0.07, 1.94) | 0.52 (-0.50, 1.54) | **-4.69 (-6.02, -3.35)** | **-3.30 (-4.65, -1.95)** |
|  |  |  |  |  |  |  |  |
|  | FIES score (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | **6.23 (4.86, 7.60)** | **6.64 (5.72, 7.57)** | **6.39 (5.63, 7.15)** | **6.41 (5.66, 7.16)** | **5.18 (3.97, 6.39)** | **6.57 (5.34, 7.79)** |
|  | FIES = 4-6 | **13.54 (12.30, 14.78)** | **12.90 (12.02, 13.78)** | **13.51 (12.79, 14.22)** | **13.12 (12.41, 13.83)** | **12.11 (10.98, 13.25)** | **13.21 (12.08, 14.35)** |
|  | FIES = 7-8 | **23.70 (22.56, 24.84)** | **21.52 (20.70, 22.35)** | **22.88 (22.22, 23.54)** | **22.47 (21.81, 23.14)** | **21.92 (20.86, 22.99)** | **22.93 (21.87, 23.99)** |
|  |  |  |  |  |  |  |  |
|  | Food insecurity and social support interaction (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | 0.16 (-1.35, 1.67) | 0.32 (-1.02, 1.67) | 0.46 (-0.74, 1.66) | 0.55 (-0.65, 1.76) | **1.77 (0.38, 3.15)** | -0.01 (-1.47, 1.45) |
|  | FIES = 4-6 | -1.21 (-2.59, 0.18) | 0.16 (-1.15, 1.47) | -0.56 (-1.71, 0.59) | 0.30 (-0.87, 1.46) | 1.19 (-0.11, 2.49) | -0.97 (-2.35, 0.41) |
|  | FIES = 7-8 | **-4.71 (-6.00, -3.43)** | **-2.69 (-3.96, -1.42)** | **-3.35 (-4.45, -2.26)** | **-2.35 (-3.47, -1.24)** | -0.75 (-1.96, 0.47) | **-5.06 (-6.37, -3.76)** |
|  |  |  |  |  |  |  |  |
|  | Constant | 22.91 (20.71, 25.11) | 19.11 (17.22, 21.00) | 19.17 (17.25, 21.09) | 19.36 (17.47, 21.25) | 23.07 (20.98, 25.16) | 21.27 (19.18, 23.37) |
|  | **Random effect (variance)** |  |  |  |  |  |  |
|  | Random slope | 7.01 (3.94, 12.47) | 4.97 (2.58, 9.56) | 2.81 (1.32, 5.97) | 3.26 (1.60, 6.64) | 8.08 (4.55, 14.32) | 7.42 (4.02, 13.71) |
|  | Random intercept | 38.64 (24.43, 61.13) | 30.19 (18.91, 48.19) | 34.66 (22.07, 54.44) | 33.21 (21.15, 52.16) | 36.39 (22.92, 57.79) | 34.97 (21.75, 56.24) |
|  | Residual | 807.06 (799.89, 814.30) | 776.13 (767.66, 784.68) | 815.05 (807.73, 822.43) | 814.64 (807.31, 822.04) | 809.22 (801.95, 816.56) | 770.45 (762.06, 778.93) |
|  |  |  |  |  |  |  |  |
| *Appendix Table 3 (cont')* | |  |  |  |  |  |  |
|  |  | Perceived | Foreign perceived | Received | Given | Integrative | Emotional |
| ***Positive Experience Index (PEI)*** | | | | | | | | |
|  | **N** | 63339 | 63015 | 62073 | 61812 | 62197 | 63294 |
|  | **Marginal function** |  |  |  |  |  |  |
|  | Difference in mean experience score (ref. group = without type of social support) | **8.10 (6.50, 9.71)** | **4.07 (2.91, 5.24)** | 0.20 (-1.12, 1.51) | **1.69 (0.53, 2.85)** | **10.00 (8.55, 11.45)** | **10.18 (8.62, 11.73)** |
|  |  |  |  |  |  |  |  |
|  | FIES score (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | **-4.13 (-5.68, -2.59)** | **-5.73 (-6.65, -4.81)** | **-6.02 (-6.90, -5.13)** | **-5.78 (-6.65, -4.92)** | **-3.92 (-5.27, -2.57)** | **-4.30 (-5.50, -3.10)** |
|  | FIES = 4-6 | **-7.26 (-8.67, -5.85)** | **-9.04 (-9.91, -8.17)** | **-9.99 (-10.84, -9.15)** | **-10.20 (-11.03, -9.38)** | **-7.85 (-9.12, -6.57)** | **-7.85 (-8.97, -6.74)** |
|  | FIES = 7-8 | **-13.83 (-15.13, -12.53)** | **-15.45 (-16.27, -14.63)** | **-16.24 (-17.03, -15.46)** | **-16.00 (-16.77, -15.22)** | **-14.65 (-15.85, -13.46)** | **-14.99 (-16.04, -13.94)** |
|  |  |  |  |  |  |  |  |
|  | Food insecurity and social support interaction (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | -1.60 (-3.30, 0.11) | 0.54 (-0.78, 1.87) | 0.41 (-0.94, 1.77) | 0.28 (-1.09, 1.66) | **-1.95 (-3.49, -0.40)** | -1.22 (-2.65, 0.21) |
|  | FIES = 4-6 | **-2.06 (-3.64, -0.48)** | -0.08 (-1.38, 1.22) | 0.83 (-0.49, 2.15) | **2.41 (1.07, 3.75)** | **-1.52 (-2.99, -0.05)** | -0.87 (-2.23, 0.49) |
|  | FIES = 7-8 | 0.53 (-0.95, 2.01) | **3.40 (2.14, 4.66)** | **2.85 (1.57, 4.14)** | **4.36 (3.04, 5.68)** | 0.87 (-0.52, 2.26) | **2.95 (1.66, 4.24)** |
|  |  |  |  |  |  |  |  |
|  | Constant | 70.25 (68.12, 72.37) | 74.93 (73.19, 76.67) | 76.93 (75.44, 78.43) | 76.26 (74.75, 77.78) | 69.29 (67.37, 71.22) | 69.50 (67.55, 71.45) |
|  | **Random effect (variance)** |  |  |  |  |  |  |
|  | Random slope | 10.55 (5.60, 19.90) | 5.17 (2.73, 9.78) | 7.81 (3.84, 15.88) | 4.39 (1.82, 10.60) | 8.83 (4.86, 16.06) | 13.50 (7.79, 23.40) |
|  | Random intercept | 31.34 (18.84, 52.13) | 24.92 (15.50, 40.07) | 18.12 (11.26, 29.17) | 18.60 (11.58, 29.89) | 26.73 (16.35, 43.70) | 29.62 (18.21, 48.18) |
|  | Residual | 746.87 (738.68, 755.15) | 749.23 (741.00, 757.56) | 755.03 (746.67, 763.48) | 754.16 (745.79, 762.62) | 735.80 (727.66, 744.03) | 730.89 (722.88, 738.99) |

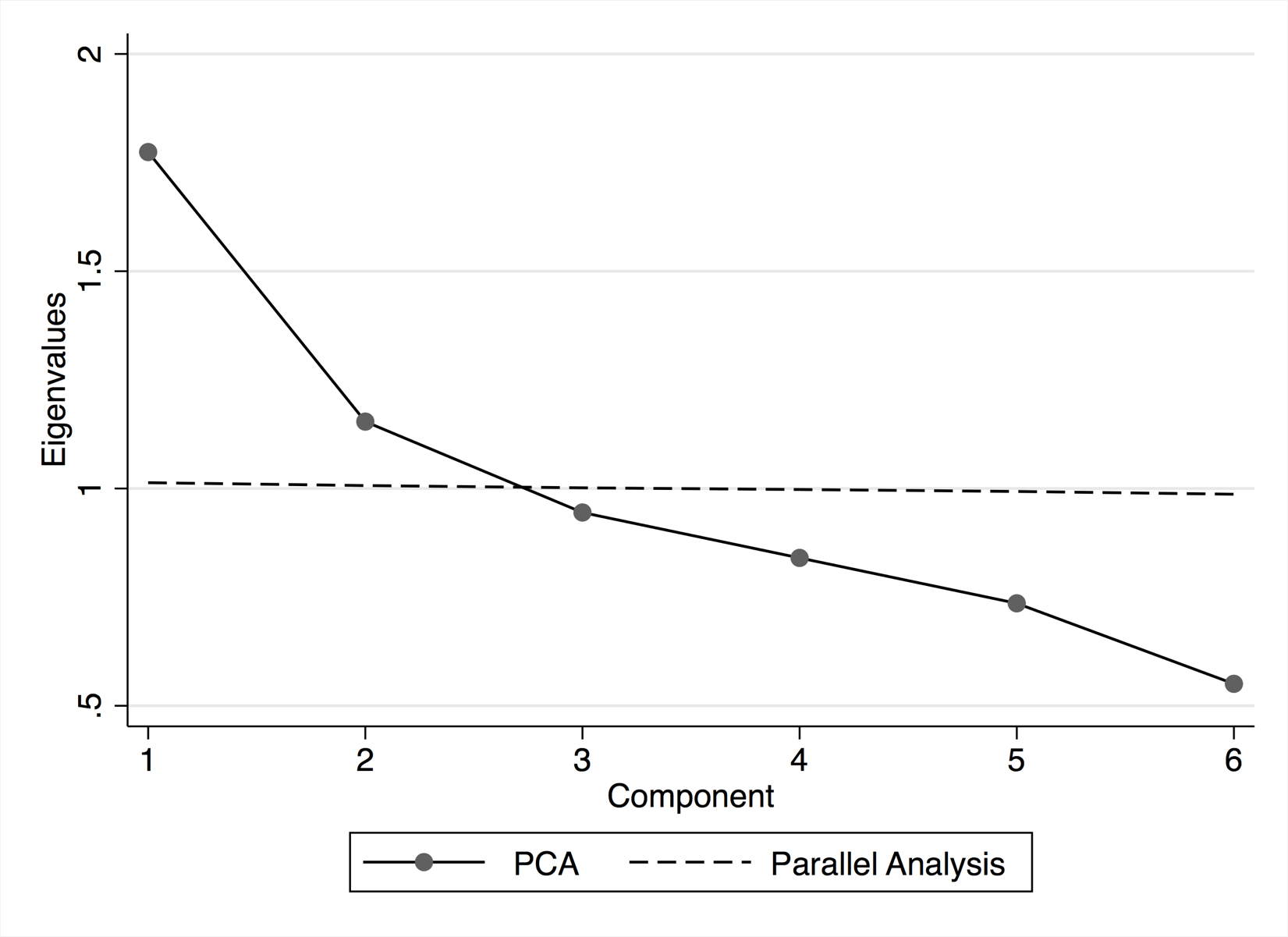
|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Appendix Table 4:** Adjusted relationship between food insecurity, social support types and mental well-being in Sub-Saharan Africa using random-effect random slope model at country levela | | | | | | | |
|  |  | Perceived | Foreign perceived | Received | Given | Integrative | Emotional |
| ***Negative Experience Index (NEI)*** | | | | | | | |
|  | **N** | 90399 | 59011 | 88776 | 88426 | 88525 | 59213 |
|  | **Marginal function** |  |  |  |  |  |  |
|  | Difference in mean experience score (ref. group = without type of social support) | **-3.16 (-4.52, -1.81)** | -0.17 (-1.29, 0.96) | 1.11 (0.11, 2.11) | 0.61 (-0.43, 1.66) | **-4.62 (-5.95, -3.28)** | **-2.63 (-3.93, -1.33)** |
|  |  |  |  |  |  |  |  |
|  | FIES score (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | **5.68 (4.32, 7.05)** | **6.24 (5.31, 7.17)** | **5.62 (4.85, 6.38)** | **5.73 (4.98, 6.48)** | **4.96 (3.74, 6.17)** | **6.36 (5.14, 7.58)** |
|  | FIES = 4-6 | **12.16 (10.92, 13.41)** | **11.75 (10.86, 12.64)** | **11.86 (11.13, 12.59)** | **11.43 (10.70, 12.15)** | **10.94 (9.79, 12.08)** | **12.38 (11.23, 13.52)** |
|  | FIES = 7-8 | **21.45 (20.30, 22.60)** | **19.11 (18.24, 19.97)** | **19.99 (19.29, 20.68)** | **19.57 (18.87, 20.26)** | **19.35 (18.27, 20.44)** | **20.66 (19.57, 21.75)** |
|  |  |  |  |  |  |  |  |
|  | Food insecurity and social support interaction (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | 0.28 (-1.23, 1.78) | 0.51 (-0.84, 1.85) | 0.95 (-0.25, 2.15) | 0.83 (-0.38, 2.04) | 1.29 (-0.09, 2.67) | -0.12 (-1.57, 1.34) |
|  | FIES = 4-6 | -1.02 (-2.41, 0.37) | 0.19 (-1.13, 1.51) | -0.24 (-1.39, 0.92) | 0.87 (-0.31, 2.05) | 0.69 (-0.61, 2.00) | -1.31 (-2.70, 0.07) |
|  | FIES = 7-8 | **-4.76 (-6.06, -3.47)** | **-2.18 (-3.47, -0.89)** | **-2.79 (-3.91, -1.68)** | **-1.65 (-2.79, -0.51)** | -1.00 (-2.23, 0.22) | **-4.80 (-6.12, -3.48)** |
|  |  |  |  |  |  |  |  |
|  | Constant | 12.85 (10.12, 15.58) | 2.69 (-0.87, 6.25) | 9.84 (7.29, 12.39) | 9.97 (7.43, 12.51) | 13.46 (10.80, 16.12) | 3.70 (0.05, 7.36) |
|  | **Random effect (variance)** |  |  |  |  |  |  |
|  | Random slope | 5.99 (3.28, 10.93) | 3.75 (1.80, 7.84) | 2.58 (1.16, 5.70) | 3.46 (1.67, 7.18) | 7.80 (4.33, 14.06) | 5.88 (2.97, 11.64) |
|  | Random intercept | 40.00 (25.11, 63.73) | 34.41 (21.12, 56.05) | 37.33 (23.60, 59.03) | 36.66 (23.18, 57.99) | 37.88 (23.65, 60.67) | 37.80 (23.02, 62.08) |
|  | Residual | 778.75 (771.60, 785.97) | 738.37 (729.98, 746.85) | 784.74 (777.47, 792.08) | 784.34 (777.06, 791.69) | 778.03 (770.81, 785.32) | 734.24 (725.92, 742.66) |
|  |  |  |  |  |  |  |  |
| *Appendix Table 4 (cont')* | |  |  |  |  |  |  |
|  |  | Perceived | Foreign perceived | Received | Given | Integrative | Emotional |
| ***Positive Experience Index (PEI)*** | | | | | | | |
|  | **N** | 58403 | 58138 | 57408 | 57188 | 57366 | 58380 |
|  | **Marginal function** |  |  |  |  |  |  |
|  | Difference in mean experience score (ref. group = without type of social support) | **6.81 (5.18, 8.44)** | **2.87 (1.70, 4.04)** | 0.08 (-1.28, 1.43) | 0.84 (-0.35, 2.03) | **9.27 (7.78, 10.76)** | **9.12 (7.48, 10.75)** |
|  |  |  |  |  |  |  |  |
|  | FIES score (ref. = FIES is 0) |  |  |  |  |  |  |
|  | FIES = 1-3 | **-3.49 (-5.04, -1.93)** | **-4.84 (-5.78, -3.91)** | **-4.92 (-5.82, -4.02)** | **-4.87 (-5.75, -4.00)** | **-3.15 (-4.51, -1.78)** | **-3.60 (-4.81, -2.38)** |
|  | FIES = 4-6 | **-5.89 (-7.32, -4.46)** | **-7.57 (-8.46, -6.67)** | **-8.06 (-8.93, -7.18)** | **-8.56 (-9.41, -7.71)** | **-6.71 (-8.02, -5.41)** | **-6.54 (-7.68, -5.40)** |
|  | FIES = 7-8 | **-11.50 (-12.83, -10.17)** | **-12.88 (-13.75, -12.01)** | **-12.93 (-13.76, -12.09)** | **-13.10 (-13.93, -12.28)** | **-12.05 (-13.29, -10.81)** | **-12.55 (-13.64, -11.47)** |
|  |  |  |  |  |  |  |  |
|  | Food insecurity and social support interaction (ref. = food secure) |  |  |  |  |  |  |
|  | FIES = 1-3 | -1.24 (-2.96, 0.48) | 0.43 (-0.92, 1.77) | 0.29 (-1.08, 1.66) | 0.28 (-1.12, 1.67) | -1.66 (-3.22, -0.10) | -1.01 (-2.46, 0.44) |
|  | FIES = 4-6 | -1.85 (-3.45, -0.25) | -0.10 (-1.42, 1.22) | 0.62 (-0.72, 1.96) | **2.29 (0.92, 3.67)** | -0.69 (-2.18, 0.81) | -0.59 (-1.97, 0.79) |
|  | FIES = 7-8 | 0.87 (-0.64, 2.37) | **3.34 (2.04, 4.63)** | **2.23 (0.91, 3.55)** | **3.72 (2.35, 5.09)** | **1.31 (-0.11, 2.72)** | **3.10 (1.78, 4.43)** |
|  | Constant | 67.48 (63.83, 71.13) | 72.41 (69.00, 75.82) | 73.48 (70.13, 76.83) | 73.29 (69.95, 76.62) | 66.76 (63.25, 70.28) | 68.48 (64.97, 71.99) |
|  | **Random effect (variance)** |  |  |  |  |  |  |
|  | Random slope | 10.32 (5.38, 19.80) | 4.68 (2.37, 9.26) | 8.05 (3.89, 16.64) | 4.32 (1.77, 10.58) | 9.18 (4.96, 17.00) | 14.89 (8.48, 26.15) |
|  | Random intercept | 32.29 (19.02, 54.84) | 25.72 (15.69, 42.14) | 20.21 (12.27, 33.27) | 20.59 (12.55, 33.78) | 27.83 (16.71, 46.35) | 30.45 (18.36, 50.49) |
|  | Residual | 727.96 (719.65, 736.36) | 730.59 (722.23, 739.04) | 734.26 (725.81, 742.81) | 734.82 (726.34, 743.39) | 716.11 (707.86, 724.45) | 713.85 (705.70, 722.09) |
| a. Adjusted for age, sex, number of children under 15, number of adults over 15, education, employment status, place of residence, country-specific income quintiles and survey month. | | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Appendix Table 5:** Distribution of demographic variables of the excluded and included sample | | | | | | |
|  | Excluded | | Included | | p-valuea |  |
|  | N | % or mean (SE) | N | % or mean (SE) |  |  |
| **FIES score range** |  |  |  |  | <0.001 |  |
| 0 | 186 | 12.8 | 21426 | 20.1 |  |  |
| 1-3 | 190 | 14.6 | 17915 | 17.9 |  |  |
| 4-6 | 278 | 22.7 | 22534 | 23.4 |  |  |
| 7-8 | 613 | 49.9 | 35843 | 38.6 |  |  |
| **Social support** |  |  |  |  |  |  |
| Perceived (%) | 3031 | 66.6 | 69826 | 70.5 | <0.001 |  |
| Foreign perceived (%) | 1006 | 38.5 | 25780 | 37.3 | <0.001 |  |
| Received (%) | 1677 | 39.9 | 33651 | 34.2 | <0.001 |  |
| Given (%) | 1371 | 32.2 | 30529 | 30.1 | <0.001 |  |
| Integrative (%) | 2686 | 67.3 | 69171 | 72.4 | <0.001 |  |
| Emotional (%) | 1417 | 54.1 | 41026 | 62.6 | <0.001 |  |
| **Mental well-being** |  |  |  |  |  |  |
| NEI | 38731 | 34.7 (0.26) | 63504 | 30.2 (0.21) | <0.001 |  |
| PEI | 5438 | 57.8 (0.74) | 96797 | 67.8 (0.16) | <0.001 |  |
| **Characteristics of survey respondents** | |  |  |  |  |  |
| Age | 4517 | 33.8 (0.33) | 97718 | 34.1 (0.07) | 0.27 |  |
| Male (%) | 2311 | 50.3 | 47683 | 48.9 | 0.39 |  |
| Married (%) | 2186 | 48.3 | 50460 | 52.5 | <0.001 |  |
| Education (%) |  |  |  |  | 0.05 |  |
| Elementary education or less | 2573 | 71.2 | 53152 | 66.0 |  |  |
| Secondary | 1602 | 26.4 | 39260 | 31.4 |  |  |
| College | 187 | 2.4 | 4073 | 2.6 |  |  |
| Place of residency (%) |  |  |  |  | <0.001 |  |
| A rural area or on a farm | 1379 | 32.1 | 33393 | 36.1 |  |  |
| A small town or village | 1949 | 44.0 | 38441 | 39.4 |  |  |
| A large city | 914 | 18.7 | 17865 | 16.8 |  |  |
| A suburb of a large city | 266 | 5.1 | 7898 | 7.7 |  |  |
| # of children under 15 | 4480 | 3.2 (0.07) | 97545 | 2.8 (0.02) | <0.001 |  |
| # of people over 15 | 4501 | 4.0 (0.05) | 96734 | 3.8 (0.01) | 0.001 |  |
| a. P-values of the Pearson Chi-square test for categorical variables and Wald test for continuous variables, both adjusting for survey design | | | | | |  |

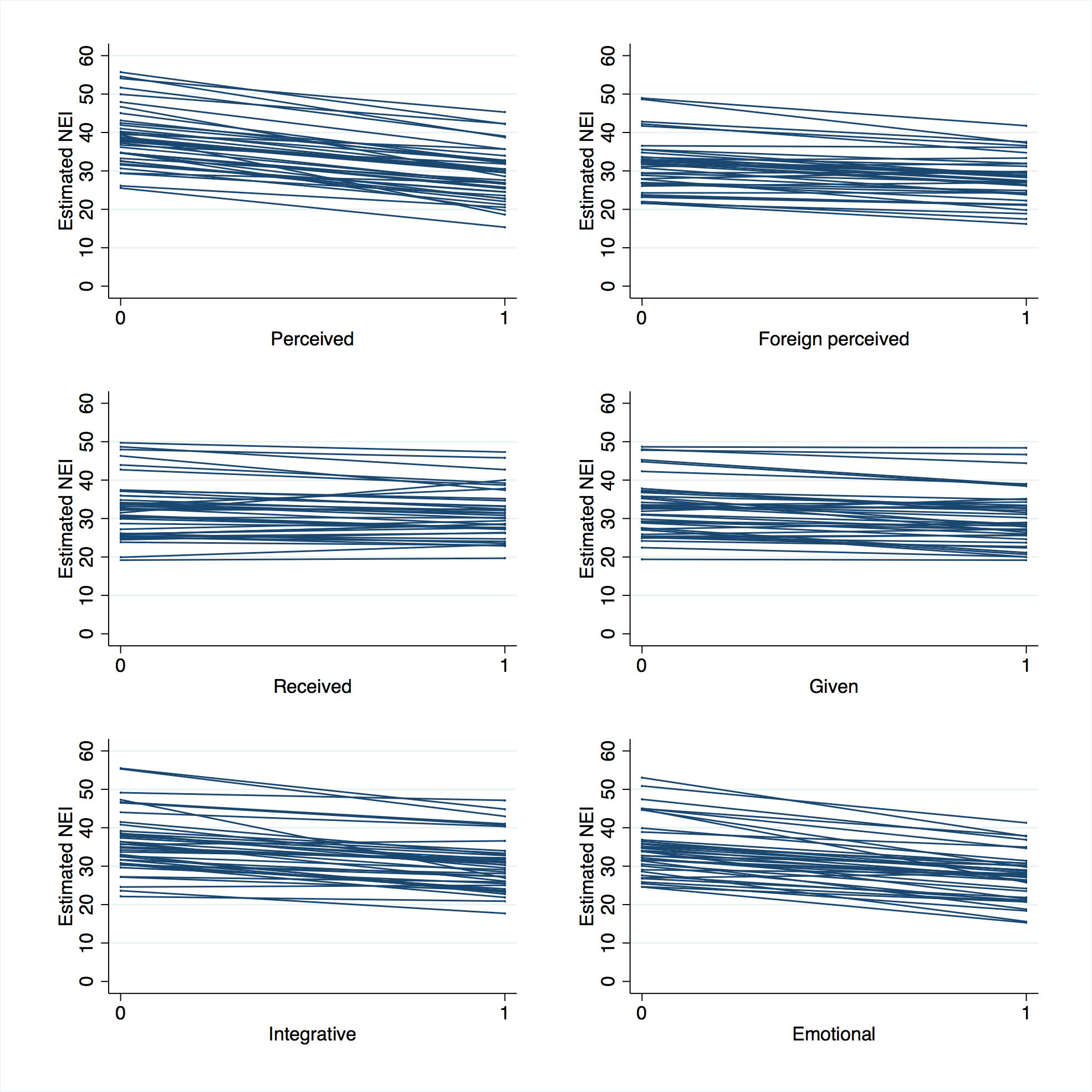
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Appendix Table 6:** Adjusted relationship between food insecurity, social support types and positive experience index (derived from at least 4 items) in Sub-Saharan Africa using random-effect random slope model at country level | | | | | | |
|  | Perceived | Foreign perceived | Received | Given | Integrative | Emotional |
| **N** | 92316 | 60166 | 90604 | 90236 | 90193 | 60381 |
| **Marginal function** |  |  |  |  |  |  |
| Difference in mean experience score (ref. group = without type of social support) | **7.03 (5.63, 8.42)** | **2.98 (1.77, 4.19)** | 0.47 (-0.66, 1.61) | 1.00 (-0.06, 2.05) | **9.14 (7.90, 10.39)** | **9.46 (7.81, 11.12)** |
|  |  |  |  |  |  |  |
| FIES score (ref. = FIES is 0) |  |  |  |  |  |  |
| FIES = 1-3 | **-3.46 (-4.78, -2.14)** | **-4.74 (-5.67, -3.81)** | **-4.38 (-5.12, -3.65)** | **-4.40 (-5.13, -3.67)** | **-3.23 (-4.39, -2.06)** | **-3.43 (-4.63, -2.23)** |
| FIES = 4-6 | **-6.24 (-7.45, -5.04)** | **-7.47 (-8.36, -6.58)** | **-7.65 (-8.36, -6.95)** | **-8.08 (-8.78, -7.38)** | **-6.97 (-8.07, -5.88)** | **-6.31 (-7.44, -5.18)** |
| FIES = 7-8 | **-11.10 (-12.21, -9.98)** | **-12.72 (-13.58, -11.86)** | **-12.03 (-12.70, -11.36)** | **-12.27 (-12.94, -11.60)** | **-11.73 (-12.77, -10.69)** | **-12.35 (-13.43, -11.28)** |
|  |  |  |  |  |  |  |
| Food insecurity and social support interaction (ref. = food secure) |  |  |  |  |  |  |
| FIES = 1-3 | -0.90 (-2.36, 0.56) | 0.22 (-1.11, 1.56) | -0.22 (-1.39, 0.94) | -0.09 (-1.26, 1.09) | -1.26 (-2.59, 0.07) | -1.19 (-2.63, 0.24) |
| FIES = 4-6 | -1.09 (-2.43, 0.25) | -0.22 (-1.53, 1.10) | 0.04 (-1.09, 1.16) | **1.53 (0.39, 2.67)** | -0.21 (-1.47, 1.04) | -0.78 (-2.14, 0.59) |
| FIES = 7-8 | 1.17 (-0.08, 2.43) | **3.21 (1.92, 4.50)** | **1.37 (0.28, 2.45)** | **2.69 (1.59, 3.79)** | **1.41 (0.24, 2.59)** | **3.14 (1.83, 4.45)** |
|  |  |  |  |  |  |  |
| Constant | 69.63 (67.17, 72.09) | 71.31 (67.80, 74.82) | 75.34 (73.24, 77.45) | 75.37 (73.24, 77.49) | 68.51 (66.21, 70.81) | 67.18 (63.54, 70.83) |
| **Random effect (variance)** |  |  |  |  |  |  |
| Random slope | 7.76 (4.27, 14.10) | 5.51 (2.85, 10.65) | 5.56 (2.58, 11.99) | 4.11 (1.92, 8.81) | 6.20 (3.42, 11.24) | 15.66 (9.01, 27.21) |
| Random intercept | 30.91 (18.95, 50.41) | 33.17 (20.32, 54.13) | 21.33 (13.40, 33.96) | 22.14 (13.92, 35.20) | 26.00 (16.09, 42.02) | 40.29 (24.57, 66.07) |
| Residual | 742.33 (735.58, 749.13) | 742.51 (734.16, 750.96) | 750.42 (743.53, 757.36) | 749.78 (742.89, 756.73) | 729.68 (722.97, 736.45) | 724.46 (716.33, 732.69) |

a. Adjusted for age, sex, number of children under 15, number of adults over 15, education, employment status, place of residence, country-specific income quintiles and survey month.

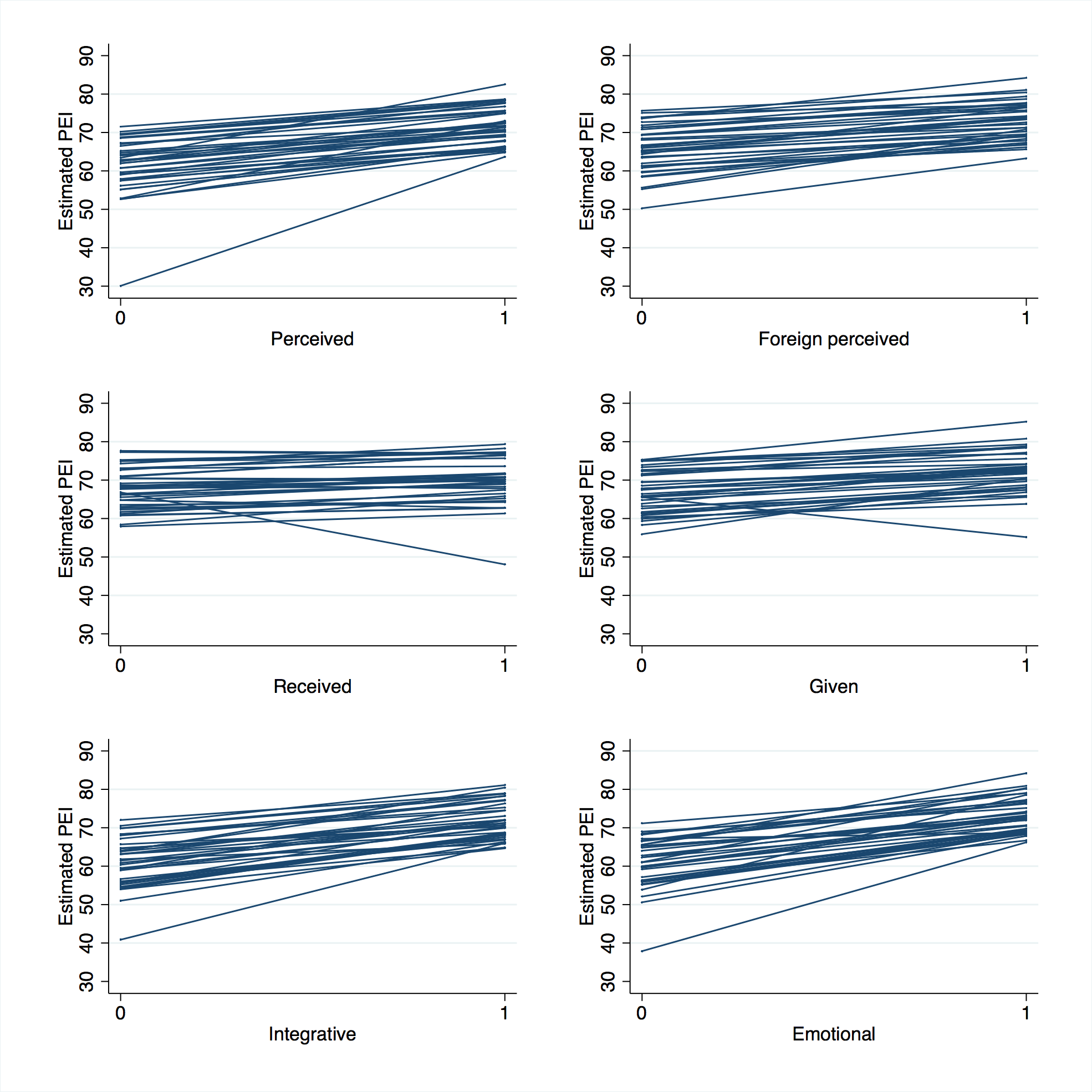
**Appendix Figure 1:** Eigenvalues estimated from Principal Component Analysis and parallel analysis among the six social support variables

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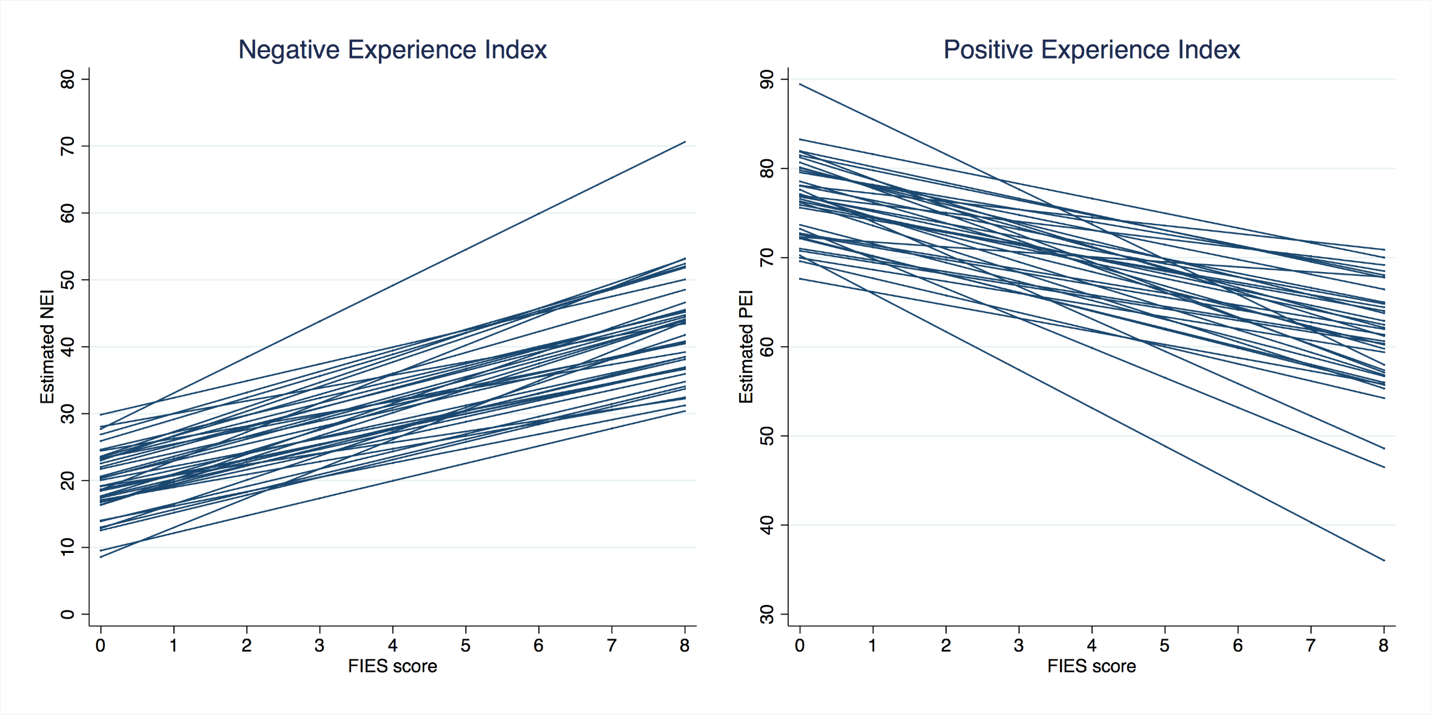
**Appendix Figure 2:** Country-specific univariate association between social support and Negative Experience Index



**Appendix Figure 3:** Country-specific univariate association between social support and Positive Experience Index



**Appendix Figure 4:** Country-specific univariate association between FIES score and mental well-being



**Appendix Figure 5:** The marginal effect of food insecurity and types of social support on Positive Experience Index in sub-Saharan Africa, excluding Burundi and Sudan. The relationship is adjusted for respondent’s age, sex, number of children under 15, number of adults over 15, education, employment status, place of residence, country-specific income quintiles and survey month. 