

Supplementary procedure details for manuscript: *The development of third-party punishment and reward in ni-Vanuatu children: evidence of cost-benefit calculations*

**PROTOCOLS & SCRIPTS**

Page 2 **SWEET FAMILIARISATION PHASE**

Page 3 **INTERACTION PHASE, ANTISOCIAL ACTOR**

Page 4 **THIRD-PARTY INTERACTION PHASE, NEUTRAL ACTOR**

Page 4-6 **TEST PHASE, DISTRIBUTION TASK**

Page 6 **DEBRIEF**

## SWEET FAMILIARISATION PHASE

Economically costly condition only:

“There are 5 sweeties for you. They are nice. You have to wait though, so I can tell you what is going to happen.”

*Igat faev swit loli ia, blo yu nomo. Oli naes mo swit. Be, yu weit smol fastaem. Mbambae mi talem samting long yu, olbaet wanem mbae ihapen.*

All:

Present 3 small plastic boxes (red, green, white lids).

“I bought some sweets along with me. They are not for us; they are for some other people.”

*Mi karem sam swit loli wetem mi. Oli no blong yumi,oli blo narafala man.*

“Some of them are really delicious but some of them taste really disgusting; they are real sweets--they look like sweets but they are disgusting so you can trick people. I don't remember which so I'll have to test them.”

*Samfala ia hemi tes gud tumas, be samfala ia hemi no naes, hemi no tes gud, oli tru loli be sam ia hemi gud, mo sam ia hemi nogud. Mi no save wij wan ia hemi gud, mo mi no save wij wan ia hemi nogud. Bambae, mi mas traem hem nao.*

Open Box of sweet type 1 (smell closely). “I'll smell it a bit.” Smile. “Yummy, they smell delicious.”

*Mm, mi drink smol. Hemia hemi gud, i gud tumas!*

Open Box of sweet type 2 (smell closely). “I'll smell it a bit.” Grimace. “Yuck, that was really horrible. It stinks, I don't like it; It smells rotten.”

*Mm, mi drink smol. Awe! Hemia hemi nogud. Hemi stink, mi no laekem; hemi roten.*

Open empty box. “This box is empty, see?” Show empty contents.

*MBokis ia, hemi empti nomo. Yu save luk?*

“Now, can you show me which box has the delicious proper sweets? And which has the disgusting sweets? And which is an empty box?” (Repeat until correct answer.)

*Nao ia, yu save talem mi wanem ia hemi gud swit loli? Mo wanem ia hemi bad loli? Mo wij wan hemi wan empti bokis we i nogat nating istap insaed?*

### THIRD-PARTY INTERACTION PHASE, ANTISOCIAL ACTOR

“Now I’m going to tell you about something that happened with some people far away. This is James/Mary.”

*Nao ia, hemia storian blong sam pipol i stap longwe. Hemia hemi Jemes/Meri.*

Show polaroid of James/Mary looking proud in nice shirt/necklace.

“James/Mary got a new shirt/necklace one day that he/she really liked because it looked so good. He/she decided to show it to John/Helen.”

*Jemes/Meri i bin pem wan set/nekla we i laekem tumas, from we set/nekla ia hemi luk gud. Jemes/Meri, hemi lukaotem Jon/Helen, blong soem hem set/nekla blong hem.*

Shows polaroid of James/Mary handing shirt/necklace to John/Helen.

“For no reason, John/Helen just tore the shirt/necklace into pieces, even though James/Mary hadn’t done anything.”

*Be, from se mi no save blong wanem, Jon/Meri hemi terem mo spoilem set blong Jemes/Meri. Jemes/Meri hemi no mekem samting long Jon/Helen, be Jon/Helen hemi spoilem set/nekla blong hem.*

Shows polaroid of John/Helen with destroyed shirt/necklace, holding torn pieces of shirt cloth/broken necklace string.

“He/she had to take it to the mamas. The mamas fixed it and they made it better again.”

*Mekem se, hemia hemi karen igo long ol mama. Mo olgeta, oli reperem set/nekla blo hem, mo oli mekem ikam gud bakegen.*

### THIRD-PARTY INTERACTION PHASE, NEUTRAL ACTOR

“Now I’m going to tell you about something else that happened with some people far away. This is James.”

*Nao ia, hemia storian blong sam pipol i stap longwe. Hemia hemi Jemes/Meri.*

Show polaroid of James/Mary looking proud in nice shirt/necklace.

“James/Mary got a new shirt/necklace one day that he/she really liked because it looked so good. He/she decided to show it to Peter/Grace.”

*Jemes/Meri i bin pem wan set/nekla we i laekem tuma, from we set/nekla ia hemi luk gud. Jemes/Meri, hemi lukaotem Pita/Gres, blong soem hem set/nekla blong hem.*

Show polaroid of James/Mary handing shirt/necklace to Peter/Grace.

“Peter/Grace said he/she could see it was an alright shirt/necklace.”

*Mo Pita/Gres i talem se, set/nekla ia hemi orate nomo.*

Show polaroid of Peter/Grace holding on to the intact shirt/necklace.

### TEST PHASE, DISTRIBUTION TASK

Economically costly condition only:

“If you give me one of your sweeties, you can send a delicious or disgusting sweet to them. This will cost you one of your sweets every time. If you want, you can send them an empty box. You can keep all your sweets, if you want. It is up to you.”

*Sapos yu givem wan swit loli blong yu iho long mi, hemi mekem se yu save jusum wan loli we hemi swit o roten igo long hem o wan loli igo long hem. Mbae hemi kostem yu wan loli blong yu blo sendem olsem. Sapos yu yu wantem sendom bokis ia we hemi empty, yu save kipim loli blong yu nomo, sapos yu wantem. Istap lo yu nomo.*

All:

Final polaroid from each vignette, shuffle, place in boxes. Place boxes on table. Shuffle.

“Please take a look in each box, and don’t tell me who you see. Don’t take the picture out.”

*Plis yu openem bokis nao. Yu luk insaed, mo, yu no save talem mi wij pija istap insaed. Livim pija insaed bokis nomo.*

“So now, John/Helen and Peter/Grace can get something, and you can decide what they can get. You can give them good sweeties or disgusting sweeties (that are rotten).”

*Nao ia, Jon/Helen mo Pita/Grace bambae i save gat samting, be yu yu save mekem decisen. Yu save givem tufala sam samting. Long wan yu yu save givem sam gudfala swit loli we i tes gud tumas, o yu save givem sam bad loli we i tes bad, we hemi roten.*

Present boxes.

“This is the box for this one, and this is the box for this one. I’m going to post these boxes. So it’s the postman that’s going to give them, and they won’t know who sent it.”

*Box ia, hemi blong man/woman ia. Box ia, hemi blong man/woman ia. Bambae mi karem tufala box ia igo long pos ofis. Afta, pos ofis bae i karem longwe long tufala man/woman ia. Mekem se, tufala man/woman ia bae hemi no save from hu loli i kam long hem.*

In-person condition: “And today, they will be coming to your school. They are coming by boat over here. You will get to see them and then give them a box.”

*Mo tedei, tufala ia mbambae ikam long skul ia. Tufala istap kam long bot. Mbae yu, yu save mitim tufala mo givim bokis long tufala.*

In-person condition: “John/Helen and Peter/Grace are arriving on the next bus, and be here soon. You get to meet them and give them the boxes, one for one of them and one for another. It will be good to see what they think of what you give them.”

*Mi wantem talem yu, Jon/Helen mo Pita/Gres istap kam long ples ia nao, long bas. Ating se tufala bambae i rijem long ples ia i no long taem. Bambae yu save mitem tufala, mo yu save givem box ia wanwan, wan igo lo wan mo wan igo lo narawan. Ating se mbae hemi gud lo lukim yu givem box long tufala, mo yumo lukluk tingting blo tufala.*

Place the 3 small, sweet boxes in front of each large box.

Memory question.

“Now, do you remember which box has the good sweeties, that taste very nice? And which box has the disgusting sweeties, that taste rotten? And which is the empty box, with nothing inside?”

*Nao ia, yu save talem mi wij wan bokis ia igat loli we hemi gudfala loli we i tes gud tumas? Mo, yu save talem mi wij wan bokis igat loli hemi loli we I toen mo i tes bad tumas? Mo, yu save talem mi wij wan bokis ia hemi empti nomo, we inogat nating istap insaed?*

Economically costly condition only:

“Now, would you like to pay to choose one of the sweet boxes, or would you like to send the empty box?”

*Nao ia, yu wantem jusum wan bokis wetem loli blo sendem, o yu wantem sendem empti bokis nomo?*

If not empty, receive payment, look away as choice of good/bad sweet box is made.

Free-of-economic-cost condition only:

“Thanks. So now I’m going to read my book while you decide what they should get. Choose a box for each, put them in the big box for each, and tell me when you are done. This is your decision. You can choose which box and put it inside the box here, and afterwards, tell me when you have finished.”

*Tangkiu. Nao ia, bae mi ridim buk blong mi. Taem mi ridim buk blong mi, yu save mekem decisen--wij wan loli tufala i save gat wanwan? Hemia decisen blong yu. Yu save jusum wan bokis mo putum insaed long box ia nao, mo afta, yu save talem mi taem yu finisem.*

## DEBRIEF

“Now I have to tell you, they are not really coming to your school. This was just a game, so don’t worry. It wasn’t real. Thank you so much, I’m so glad you took part, the game is over now.”

*Nao ia, mi mas telem samting impoten lo yu. Tufala ia, mbambae ino kam lo skol blo yu. Hemia hemi wan gem nomo. Wan pleiplei, we hemi no ril. Yu no wori. Tankyu tumas, mi mi glad tumas from yu yu tek pat. Gem ia, ifinis nao.*