

Appendix S. Experimental materials in Experiment 1

Note. 1) For each item set, there are six prime sentences: Double Object prime in Mandarin (DO-M), Cantonese (DO-C) or English (DO-E), Preposition Object prime in Mandarin (PO-M), Cantonese (PO-C) or English (PO-E); and two target sentences (Double Object or Preposition Object) in italics. Prime verbs included two DO-biased verbs and four PO-biased verbs in Mandarin and English. These six verbs showed PO bias in Cantonese. The four target verbs did not show obvious preference of two dative structures.

2) Similar to Chen et al. (2021), 96 fillers involved a range of sentence structures (e.g., active, passive, shifted PO, BA-construction, predicate adjective, attributive structure). Filler sentences were not listed below.

Item	Materials in Experiment 1
1	老爷赏管家一幅名画。/The lord granted the housekeeper a painting. 老爷赏名画给管家。/The lord granted a painting to the housekeeper. <i>将军赠(骑士一面旗帜/旗帜给骑士)。(The general gifts (the knight a pennant/the pennant to the knight).)</i>
2	院长发秘书一张照片。/The dean sent the secretary a picture. 院长发照片给秘书。/The dean sent a picture to the secretary. <i>悟空还(老人一只老鹰/老鹰给老人)。(Wukong returns the old man a eagle/the eagle to the old man.)</i>
3	女王赐王子一颗宝石。/The queen awarded the prince a diamond. 女王赐宝石给王子。/The queen awarded a diamond to the prince. <i>官员递(财神一箱财宝/财宝给财神)。(The officer passes (Caishen a box of treasure/the treasure to Caishen).)</i>
4	拳王丢司机一串钥匙。/The boxer threw the driver a key. 拳王丢钥匙给司机。/The boxer threw a key to the driver. <i>农民赔(保安一个宝石/宝石给保安)。(The farmer compensates (the bodyguard a jewelry/the jewelry to the bodyguard).)</i>
5	记者带主编一份文件。/The reporter brought the editor a script. 记者带文件给主编。/The reporter brought a script to the editor. <i>公主赠(警察一辆警车/警车给警察)。(The princess gifts (the policeman a police car/the police car to the policeman).)</i>
6	船长留水手一张地图。/The captain left the sailor a map. 船长留地图给水手。/The captain left a map to the sailor. <i>富翁还(模特一辆摩托/摩托给模特)。(The millionaire returns (the model a motorbike/the motorbike to the model).)</i>
7	总裁赏助理一辆宝马。/The CEO granted the assistant a car. 总裁赏宝马给助理。/The CEO granted a car to the assistant. <i>超人递(导演一枚导弹/导弹给导演)。(The superman passes (the director a missile/the missile to the director).)</i>
8	老师发学生一张试卷。/The teacher sent the student a test paper. 老师发试卷给学生。/The teacher sent a test paper to the student. <i>新娘赔(沙僧一套沙发/沙发给沙僧)。(The bride compensates (Shaseng a sofa/the sofa to Shaseng).)</i>
9	皇后赐骑士一座城堡。/The queen awarded the knight a castle. 皇后赐城堡给骑士。/The queen awarded a castle to the knight. <i>王子赠(保镖一把宝剑/宝剑给保镖)。(The prince gifts (the bodyguard a sword/the sword to the bodyguard).)</i>
10	作家丢观众一本新书。/The writer threw the audience a book. 作家丢新书给观众。/The writer threw a book to the audience. <i>厨师还(活佛一支火腿/火腿给活佛)。(The chef returns (Hufo a piece of ham/the ham to Hufo).)</i>

- 11 班长带同学一些特产。/The student brought the classmate some food.
班长带特产给同学。/The student brought some food to the classmate.
仙女递(叮当一枚钉子/钉子给叮当)。(The fairy passes (Dingdang a nail/the nail to Dingdang).)
- 12 海盗留水手一把手枪。/The pirate left the sailor a gun.
海盗留手枪给水手。/The pirate left a gun to the sailor.
奶奶赔(士兵一个柿子/柿子给士兵)。(Grandma compensates (the soldier a persimmon/the persimmon to the soldier).)
- 13 女王赏牧师一本圣经。/The queen granted the priest a bible.
女王赏圣经给牧师。/The queen granted a bible to the priest.
老人赠(报童一串爆竹/爆竹给报童)。(The old man gifts (the boy a firecracker/the firecracker to the boy).)
- 14 教授发学生一封邮件。/The professor sent the student an email.
教授发邮件给学生。/The professor sent an email to the student.
女孩还(海盗一个海螺/海螺给海盗)。(The girl returns (the pirate a conch/the conch to the pirate).)
- 15 宰相赐士兵一把弓箭。/The minister awarded the soldier an arrow.
宰相赐弓箭给士兵。/The minister awarded an arrow to the soldier.
男孩递(耶稣一个椰子/椰子给耶稣)。(The boy passes (Jesus a coconut/the coconut to Jesus).)
- 16 总裁丢秘书一支钢笔。/The CEO threw the secretary a pen.
总裁丢钢笔给秘书。/The CEO threw a pen to the secretary.
空姐赔(鼓手一块骨头/骨头给鼓手)。(The stewardess compensates (the drummer a bone/the bone to the drummer).)
- 17 经理带老板一份礼物。/The manager brought the boss a gift.
经理带礼物给老板。/The manager brought a gift to the boss.
富翁赠(巫婆一间屋子/屋子给巫婆)。(The millionaire gifts (the witch a house/ the house to the witch).)
- 18 父母留保姆一把钥匙。/The parent left the babysitter a key.
父母留钥匙给保姆。/The parent left a key to the babysitter.
爷爷还(球员一副球拍/球拍给球员)。(Grandpa returns (the football player a racket/the racket to the football player).)
- 19 王爷赏农民一栋别墅。/The lord granted the farmer a house.
王爷赏别墅给农民。/The lord granted a house to the farmer.
鼓手递(邮差一张邮票/邮票给邮差)。(The drummer passes (the postman a stamp/the stamp to the postman).)
- 20 导演发演员一个剧本。/The director sent the actor a script.
导演发剧本给演员。/The director sent a script to the actor.
国王赔(官员一个棺材/棺材给官员)。(The king compensates (the officer a coffin/the coffin to the officer).)
- 21 皇帝赐将军一把宝剑。/The king awarded the general a sword.
皇帝赐宝剑给将军。/The king awarded a sword to the general.
富翁赠(道士一些稻谷/稻谷给道士)。(The millionaire gifts (the taoist some paddy/the paddy to the taoist).)
- 22 教练丢队员一个排球。/The coach threw the player a volleyball.
教练丢排球给队员。/The coach threw a volleyball to the player.
爷爷还(空姐一台空调/空调给空姐)。(Grandpa returns (the stewardess an air conditioner/the air conditioner to the stewardess).)
- 23 水手带船长一件外套。/The sailor brought the captain a coat.
水手带外套给船长。/The sailor brought a coat to the captain.
保姆递(皇后一根黄瓜/黄瓜给皇后)。(The nanny passes (the empress a cucumber/the cucumber to the empress).)
- 24 作家留律师一份合同。/The writer left the lawyer a contract.
作家留合同给律师。/The writer left a contract to the lawyer.
法官赔(天使一些天线/天线给天使)。(The judge compensates (the angel an antenna/the antenna to the angel).)
- 25 富翁赏舞者一架钢琴。/The millionaire granted the dancer a piano.
富翁赏钢琴给舞者。/The millionaire granted a piano to the dancer.
道士赠(八戒一张八卦/八卦给八戒)。(The taoist gifts (the Bajie a Bagua/the Bagua to Bajie).)
- 26 邮差发秘书一封信件。/The mailman sent the secretary a letter.
邮差发信件给秘书。/The mailman sent a letter to the secretary.

- 农民还(厨师一把锄头/锄头给厨师)。(The farmer returns (the chef a hoe/the hoe to the chef).)
- 27 公主赐骑士一把手枪。/The princess awarded the knight a gun.
公主赐手枪给骑士。/The princess awarded a gun to the knight.
工人递(孕妇一个熨斗/熨斗给孕妇)。(The worker passes (the pregnant lady an iron/the iron to the pregnant lady).)
- 28 球员丢队友一个足球。/The football player threw the teammate a football.
球员丢足球给队友。/The football player threw a football to the teammate.
悟空赠(皇帝一顶皇冠/皇冠给皇帝)。(Wukong compensates (the emperor a crown/the crown to the emperor).)
- 29 会计带客户一张发票。/The accountant brought the client an invoice.
会计带发票给客户。/The accountant brought an invoice to the client.
皇后赠(法官一对砝码/砝码给法官)。(The empress gifts (the judge a weight/ the weight to the judge).)
- 30 牙医留管家一把钥匙。/The dentist left the housekeeper a key.
牙医留钥匙给管家。/The dentist left a key to the housekeeper.
富翁还(农民一块农田/农田给农民)。(The millionaire returns (the farmer a piece of farmland/the farmland to the farmer).)
- 31 官员赏士兵一袋金币。/The officer granted the soldier some golds.
官员赏金币给士兵。/The officer granted some golds to the soldier.
医生递(交警一些胶囊/胶囊给交警)。(The doctor passes (the policeman a pill/the pill to the policeman).)
- 32 会计发经理一份账单。/The accountant sent the manager a bill.
会计发账单给经理。/The accountant sent a bill to the manager.
工人赠(画家一支话筒/话筒给画家)。(The worker compensates (the artist a microphone/the microphone to the artist).)
- 33 将军赐厨师一箱黄金。/The general awarded the chef some golds.
将军赐黄金给厨师。/The general awarded some golds to the chef.
女孩赠(唐僧一颗糖果/糖果给唐僧)。(The girl gifts (Tangseng a candy/the candy to Tangseng).)
- 34 歌手丢粉丝一张唱片。/The singer threw the fans a CD.
歌手丢唱片给粉丝。/The singer threw a CD to the fans.
将军还(渔夫一个渔网/渔网给渔夫)。(The general returns (the fisherman a fishnet/the fishnet to the fisherman).)
- 35 助理带模特一件礼服。/The assistant brought the model a dress.
助理带礼服给模特。/The assistant brought a dress to the model.
官员递(魔鬼一个蘑菇/蘑菇给魔鬼)。(The officer passes (the devil a mushroom/the mushroom to the devil).)
- 36 大厨留顾客一块蛋糕。/The chef left the customer a cake.
大厨留蛋糕给顾客。/The chef left a cake to the customer.
空姐赠(和尚一个盒子/盒子给和尚)。(The stewardess compensates (the monk a box/the box to the monk).)
- 37 太后赏农民一袋大米。/The queen granted the farmer some food.
太后赏大米给农民。/The queen granted some food to the farmer.
老师赠(小新一棵小树/小树给小新)。(The teacher gifts (Xiaoxin a tree/the tree to Xiaoxin).)
- 38 老板发员工一封邮件。/The boss sent the employee an email.
老板发邮件给员工。/The boss sent an email to the employee.
女孩还(歌手一套歌谱/歌谱给歌手)。(The girl returns (the singer a set of music score/the music score to the singer).)
- 39 国王赐特工一个勋章。/The king awarded the spy a medal.
国王赐勋章给特工。/The king awarded a medal to the spy.
警察递(车手一个车牌/车牌给车手)。(The policeman passes (the rider a license plate/the license plate to the rider).)
- 40 律师丢助理一份文件。/The lawyer threw the assistant a file.
律师丢文件给助理。/The lawyer threw a file to the assistant.
保姆赠(医生一件衣服/衣服给医生)。(The nanny compensates (the doctor a shirt/the shirt to the doctor).)
- 41 房东带租客一份合同。/The landlord brought the tenant a contract.
房东带合同给租客。/The landlord brought a contract to the tenant.
唐僧赠(牧童一间木屋/木屋给牧童)。(Tangseng gifts (the boy a chalet/the chalet to the boy).)
- 42 医生留穷人一些草药。/The doctor left the poor some medicine.

医生留草药给穷人。/The doctor left some medicine to the poor.

歌手还(囚犯一双球鞋/球鞋给囚犯)。(The singer returns (the prisoner a sneaker/the sneaker to the prisoner).)

43 皇上赏大臣一箱黄金。/The King granted the minister some golds.

皇上赏黄金给大臣。/The King granted some golds to the minister.

大雄递(喇嘛一个喇叭/喇叭给喇嘛)。(Daxiong passes (the lama a trumpet/the trumpet to the lama).)

44 考官发考生一张试卷。/The examiner sent the candidate a test paper.

考官发试卷给考生。/The examiner sent a test paper to the candidate.

球员赔(仙女一束鲜花/鲜花给仙女)。(The football player compensates (the fairy a bunch of flowers/the flowers to the fairy).)

45 王子赐武士一件盔甲。/The prince awarded the knight an armor.

王子赐盔甲给武士。/The prince awarded an armor to the knight.

修女赠(男孩一个南瓜/南瓜给男孩)。(The nun gifts (the boy a pumpkin/the pumpkin to the boy).)

46 男孩丢队友一个篮球。/The boy threw the teammate a basketball.

男孩丢篮球给队友。/The boy threw a basketball to the teammate.

司机还(超人一沓钞票/钞票给超人)。(The driver returns (the superman a stack of cash/the cash to the superman).)

47 学生带室友一包饼干。/The student brought the roommate some cookies.

学生带饼干给室友。/The student brought some cookies to the roommate.

护士递(牧师一个木凳/木凳给牧师)。(The nurse passes (the priest a wooden stool/the wooden stool to the priest).)

48 老板留会计一份报告。/The boss left the accountant a report.

老板留报告给会计。/The boss left a report to the accountant.

老师赔(护士一本护照/护照给护士)。(The teacher compensates (the nurse a passport/the passport to the nurse).)
