**Supplemental Materials**

**Method**

**Model-fitting***.* A reinforcement-based learning model was fit to the choice data of study participants to determine two free parameters: the learning rate and the inverse temperature (Averbeck et al., 2013; Costa, Tran, Turchi, & Averbeck, 2014; Lindner et al., 2016). On each trial, participants chose to either approach or avoid an object. At the start of the task, each stimulus had an expcted value (E*V)* set to 0. The prediction error (*PE*) for each trial was calculated using the feedback, *F* [coded 1 ($5 reward), 0.2 ($1), -0.2 ($1 loss) or -1 ($5 loss], and the value for the stimulus at the time of choice via the following formula:

*𝑃𝐸*.

However, no activation, modulated by PE, was found for the main effects of reward and punishment feedback conditions within the NMT group. It is worth mentioning that feedback was provided after approach trials only, which amounted to about half (55%) of all the decision-phase trials. Moreover, the feedback trials were further split into reward (57%) and punishment (43%) outcomes. Therefore, limited statistical power likely accounts for the lack of main-effect findings for feedback conditions. For this reason, a more lenient statistical threshold was applied: while maintaining the same p-value (p<.005), the ke (cluster extent) was reduced from 75 to 10, so that significant activation in smaller clusters could be detected (Table S.1).

With this less stringent threshold, during reward feedback, NMT participants recruited a network that has been previously associated with PE and reward outcome processing, including the superior and middle temporal cortex (especially their posterior sections), and the basal ganglia, including the globus pallidus, claustrum and DS (Carlson, Foti, Mujica-Parodi, Harmon-Jones, & Hajcak, 2011; Garrison, Erdeniz, & Done, 2013; Wunderlich, Rangel, & O’Doherty, 2009). Moreover, during the punishment feedback, areas that have been specifically linked to PE for negative outcomes were also recruited, such as the precentral gyrus, the dACC/MCC and also dorso-medial and dorso-lateral frontal regions, including the dorsal sections of the medial and middle frontal gyrus (Amiez et al., 2013; Garrison et al., 2013).

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| **Table S.1.** Whole-Brain1 results for the main-effects of feedback type within the Non-Maltreated (NMT) group (reduced threshold at ke = 10) | | | | | | | | | | | | | | | |
| *Condition* | | *Brain region* | *R/L* | *x* | *y* | | *z* |  | | *ke* | | *t* | | *Z* | |
| Reward Feedback Modulated by PE | |  |  |  |  | |  |  |  | |  | |  | |
|  | | MTG ext. STG | L | -54 | -64 | | 19 |  | 54 | | 3.67 | | 3.62 | |
|  | |  |  | -60 | -55 | | 25 |  |  | | 2.96 | | 2.94 | |
|  | | STG | L | -42 | -37 | | 4 |  | 10 | | 3.47 | | 3.43 | |
|  | | Globus Pallidus | R | 15 | 2 | | -2 |  | 10 | | 3.40 | | 3.37 | |
|  | | STG | L | -48 | -22 | | -5 |  | 11 | | 3.33 | | 3.29 | |
|  | | Claustrum ext. DS (putamen) | L | -30 | 14 | | -2 |  | 17 | | 3.13 | | 3.10 | |
|  | |  |  | -27 | 11 | | 7 |  |  | | 2.96 | | 2.94 | |
|  | | STG | L | -66 | -31 | | 7 |  | 12 | | 3.09 | | 3.06 | |
| Punishment Feedback Modulated PE | |  |  |  |  | |  |  |  | |  | |  | |
|  | | Supplementary motor area ext. MCC | L | -15 | | -13 | 49 |  | 38 | | 4.12 | | 4.05 | |
|  | |  |  | -6 | | -13 | 43 |  |  | | 2.98 | | 2.96 | |
|  | |  |  | -24 | | -19 | 40 |  |  | | 2.95 | | 2.92 | |
|  | | dlPFC | R | 27 | | 53 | 34 |  | 23 | | 3.96 | | 3.90 | |
|  | | MCC ext. precentral gyrus | R | 21 | -16 | | 43 |  | 23 | | 3.96 | | 3.90 | |
|  | |  |  | 27 | -22 | | 40 |  |  | | 2.76 | | 2.74 | |
|  | | dmPFC |  | 0 | 59 | | 31 |  | 10 | | 3.76 | | 3.71 | |
|  | | dlPFC | L | -36 | 47 | | 31 |  | 51 | | 3.65 | | 3.60 | |
|  | |  |  | -27 | 56 | | 28 |  |  | | 3.17 | | 3.14 | |
|  | |  |  | -42 | 35 | | 34 |  |  | | 3.15 | | 3.12 | |
|  | | MCC/dACC | L | -6 | 2 | | 43 |  | 11 | | 3.50 | | 3.46 | |
|  | | Supplementary motor area ext. MCC | R | 6 | -16 | | 52 |  | 12 | | 3.43 | | 3.40 | |
|  | | dmPFC ext. MCC/dACC | L | -9 | 23 | | 43 |  | 23 | | 3.31 | | 3.27 | |
|  | |  |  | -12 | 14 | | 43 |  |  | | 3.20 | | 3.17 | |
|  | | MCC | R | 12 | -1 | | 25 |  | 15 | | 3.25 | | 3.22 | |
| 1Whole Brain analyses corrected/thresholded at ke=10 p<.005.  *Abbreviations:* R/L = Right/Left; ke = cluster extent; MT = Maltreated group; NMT = Non-Maltreated group; DS = Dorsal striatum; MCC = Mid-cingulate cortex; MTG = Middle temporal gyrus; STG = Superior temporal gyrus; dACC = Dorsal anterior cingulate cortex; dmPFC = Dorso-medial prefrontal cortex; dlPFC = Dorso-lateral prefrontal cortex. | | | | | | | | | | | | | | | | | |

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