**Supplementary Material**

**Supplementary Method**

Regarding the two versions of the Empathic Accuracy task, we did not find any significant difference between participants who were administered the newer version of the Empathic Accuracy task and participants who were administered the older version (patients, mean=.52 (SD=.17) and mean=.59 (SD=.17) for the newer and older versions, respectively; controls, mean=.61 (SD=.10) and mean=.70 (SD=.10) for the newer and older versions, respectively).

**Supplementary Results**

To better understand the sex difference on MASC and RFS total, we examined sex difference on subscales of MASC and RFS separately. For MASC, we found significant sex effects on all three subscales of MASC (MASC Verbal, $F_{(1,236)}$=9.46, p<.01, $\eta^2_p$=.039; MASC Nonverbal, $F_{(1,236)}$=6.31, p<.05, $\eta^2_p$=.026; MASC Effectiveness, $F_{(1,236)}$=9.09, p<.01, $\eta^2_p$=.037). We found a significant sex difference on RFS work ($F_{(1,331)}$=7.62, p<.01, $\eta^2_p$=.023) and RFS social functioning ($F_{(1,331)}$=7.28, p<.01, $\eta^2_p$=.022) and a marginally significant effect on RFS family functioning ($F_{(1,331)}$=3.08, p=.08, $\eta^2_p$=.009). A sex effect was not significant on RFS Independent living. Female patients with schizophrenia showed better work functioning, social functioning and family functioning.

Supplementary Table 1. Correlations between social cognition and functioning in the schizophrenia group

| | Female | | | Male | | |
|---|---|---|---|---|---|---|
| | UPSA total | MASC total | RFS total | UPSA total | MASC total | RFS total |
| Social Cognitive Composite Score | .394** | .283* | .325* | .639** | .242** | .257** |
| IRI total | -.03 | .198 | -.046 | .017 | .116 | .054 |

* denotes p<.05 and ** denotes p<.01.
 Abbreviations: UPSA, the University of California at San Diego Performance-based Assessment; MASC, the Maryland Assessment of Social Competence; RFS, the Role Functioning Scale

Supplementary Table 2. Performance on objective and subjective social cognitive tasks

| | Patients | | Controls | | Statistics |
|---|---|---|---|---|---|
| | Female | Male | Female | Male | |
| **Objective Social Cognition** | | | | | |
| Facial Affect Recognition | .77 (.14) | .75 (.13) | .82 (.08) | .82 (.08) | Group $F_{(1,329)}$=20.14, $p$<.001, $\eta^2_p$=.058<br>Sex $F_{(1,329)}$=1.88, $p$=.17, $\eta^2_p$=.006, n=1303<br>Group by Sex $F_{(1,329)}$=.001, $p$=.98, $\eta^2_p$=.000, n=19617 |
| Emotion in Biological Motion | .70 (.12) | .67 (.13) | .77 (.11) | .76 (.09) | Group $F_{(1,323)}$=21.76, $p$<.001, $\eta^2_p$=.063<br>Sex $F_{(1,323)}$=1.19, $p$=.27, $\eta^2_p$=.004, n=1957<br>Group by Sex $F_{(1,323)}$=.57, $p$=.44, $\eta^2_p$=.002, n=3919 |
| Self-referential Memory | | | | | |
| Physical | .84 (.66) | .68 (.57) | .66 (.55) | .57 (.61) | Group $F_{(1,325)}$=1.98, $p$=.15, $\eta^2_p$=.006 n=1303<br>Sex $F_{(1,325)}$=2.82, $p$=.09, $\eta^2_p$=.009, n=867<br>Group by Sex $F_{(1,325)}$=.10, $p$=.75, $\eta^2_p$=.000, n=19617 |
| Other | 1.17 (.80) | 1.07 (.69) | 1.33 (.66) | 1.21 (.56) | Condition $F_{(2,650)}$=227.04, $p$<.001, $\eta^2_p$=.411<br>Condition by Group $F_{(2,650)}$=21.08, $p$<.001, $\eta^2_p$=.061<br>Condition by Sex $F_{(2,650)}$=.46, $p$=.62, $\eta^2_p$=.001, n=7843 |
| Self | 1.32 (.81) | 1.22 (.73) | 1.73 (.67) | 1.47 (.63) | Condition by Group by Sex $F_{(2,650)}$=1.41, $p$=.24, $\eta^2_p$=.004, n=2403 |
| Empathic Accuracy | .59 (.17) | .55 (.15) | .66 (.12) | .67 (.09) | Group $F_{(1,316)}$=24.13, $p$<.001, $\eta^2_p$=.071<br>Sex $F_{(1,316)}$=.71, $p$=.40, $\eta^2_p$=.002, n=3919<br>Group by Sex $F_{(1,316)}$=2.15, $p$=.14, $\eta^2_p$=.007, n=1116 |
| MSCEIT Branch 4 | 39.48 (11.76) | 36.04 (11.79) | 52.26 (8.04) | 48.39 (10.30) | Group $F_{(1,326)}$=69.03, $p$<.001, $\eta^2_p$=.175<br>Sex $F_{(1,326)}$=5.83, $p$<.05, $\eta^2_p$=.018<br>Group by Sex $F_{(1,326)}$=.02, $p$=.88, $\eta^2_p$=.000, n=19617 |
| **Subjective Social Cognition** | | | | | |
| IRI Fantasy | 13.6 (5.2) | 13.4 (5.0) | 14.8 (5.3) | 12.1 (4.8) | Group $F_{(1,329)}$=.00, $p$=.99, $\eta^2_p$=.00, n=19617<br>Sex $F_{(1,329)}$=4.46, $p$<.05, $\eta^2_p$=.013<br>Group by Sex $F_{(1,329)}$=3.25, $p$=.07, $\eta^2_p$=.010, n=779 |
| IRI Empathic Concern | 20.1 (4.8) | 18.7 (4.7) | 22.1 (3.3) | 19.2 (4.2) | Group $F_{(1,329)}$=4.18, $p$<.05, $\eta^2_p$=.013<br>Sex $F_{(1,329)}$=11.43, $p$<.01, $\eta^2_p$=.034 |

| | | | | | Group by Sex $F_{(1,329)}=1.42$, $p=.23$, $\eta^2_p=.004$, n=1957 |
|---|---|---|---|---|---|
| | | | | | Group $F_{(1,329)}=11.32$, $p<.01$, $\eta^2_p=.033$ |
| IRI Perspective Taking | 16.9 (4.7) | 15.9 (4.8) | 19.3 (5.2) | 17.9 (4.3) | Sex $F_{(1,329)}=3.32$, $p=.06$, $\eta^2_p=.010$, n=779 |
| | | | | | Group by Sex $F_{(1,329)}=.73$, $p=.78$, $\eta^2_p=.000$, n=19617 |
| | | | | | Group $F_{(1,329)}=61.78$, $p<.001$, $\eta^2_p=.158$ |
| IRI Personal Distress | 13.3 (4.9) | 11.7 (5.1) | 7.5 (3.4) | 7.3 (4.3) | Sex $F_{(1,329)}=1.98$, $p=.16$, $\eta^2_p=.006$, n=1303 |
| | | | | | Group by Sex $F_{(1,329)}=1.20$, $p=.29$, $\eta^2_p=.003$, n=2611 |
| | | | | | Group $F_{(1,329)}=1.03$, $p=.31$, $\eta^2_p=.003$, n=2611 |
| IRI Total | 64 (13.96) | 59.8 (12.1) | 63.7 (11.0) | 56.7 (11.4) | Sex $F_{(1,329)}=11.58$, $p<.01$, $\eta^2_p=.034$ |
| | | | | | Group by Sex $F_{(1,329)}=.77$, $p=.38$, $\eta^2_p=.002$, n=3919 |

† Abbreviations: MSCEIT, the Mayer-Salovey-Caruso Emotional Intelligence Test 2.0; IRI, the Interpersonal Reactivity Index
†† Values are given as mean (standard deviation).