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ABSTRACT
According to the integrative theory of conscience, conscience is defined as a psychological function, consisting of interrelated and reciprocally influencing aspects: the capacity for empathy, the tendency to experience self-conscious emotions, and moral reasoning. Previous research in Dutch populations suggests that offenders have lower conscience functioning than non-offenders, but that female offenders may have fewer deficiencies than male offenders and that the underlying pattern may differ. However, little is known about the conscience of female offenders compared to non-offending women. In this study, conscience functioning of 38 Dutch female offenders was compared to that of 114 non-offending female controls, 77 from the general population and 37 with psychiatric problems. Offenders scored lower on affective empathy, showed stagnated self-centering, and made more use of self-serving cognitive distortions than both non-offending control groups, with medium to large effect sizes. Findings implicate that treatment programs should focus on learning to decentralize, mentalize, and self-regulate.

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KEYWORDS Conscience; female offenders; empathy; emotions; morality

Introduction
Lack of conscience has long been found to be associated with offending (Le Sage, 2006). In the integrative theory of conscience, conscience is operationalized as a regulatory function of behaviour and identity, resulting from an interplay of empathy, self-conscious emotions such as guilt and shame, and moral reasoning, which are assumed to vary per individual, context, and over time (Schalkwijk, 2014, 2018; Schalkwijk et al., 2016a). All of these underlying aspects are in their own way related to offending.
Empathy as a concept is not well defined. It is suggested that there are perhaps as many definitions as authors, and Cuff, Brown, Taylor, and Howat listed 43 of them in their review of the concept. Ultimately, they define empathy as an emotional response, dependent on the interaction of trait capacities and state influences, with both affective and cognitive components, which are distinct yet overlapping. Empathy is automatically elicited, but also shaped by top-down control processes in the brain (2016). Affective empathy, operationalized as an openness to be emotionally affected by and a propensity to share observed feelings (Decety & Cowell, 2014), thus concerns the experience of another’s emotions, always in recognition that the source of the emotion is not one’s own (Cuff et al., 2016). Cognitive empathy refers to the desire and ability to see things cognitively from another’s perspective, and to understand another’s emotions (Cuff et al., 2016; Jolliffe & Farrington, 2006). The most preliminary form of empathy, preceding the development of cognitive and affective empathy, is emotional contagion (De Corte et al., 2007).

Higher levels of empathy are related to prosocial behaviour (Eisenberg & Eggun, 2009; Ickes, 2009; McMahon et al., 2006), and a lack of empathy is associated with offending (Jolliffe & Farrington, 2004; Seidel et al., 2013; Van Langen et al., 2014) and aggressive behaviour (Jolliffe & Farrington, 2004, 2006). Offenders, though able to judge behaviours as right or wrong, display less ability in mentalizing (i.e., perceiving and interpreting human behaviour in terms of mental states) and affective empathy than non-offenders. The more deficient these abilities are, the greater the risk of committing a crime (Mariano et al., 2017).

Empathic capacities may fuel self-evaluation and as a result self-conscious emotions such as guilt, shame or pride, that serve self-regulation, behaviour and maintenance in the social community (Schalkwijk, 2014). Higher levels of guilt and shame are associated with less offending (Spruit et al., 2016). Guilt proneness has shown to serve prosocial behaviour (Cohen et al., 2011; Ent & Baumeister, 2015) and to have an inhibitive effect on transgressive behaviour (Spruit et al., 2016; Tangney et al., 2011). For shame, however, this relation is more complex. Mild levels of shame are thought to be adaptive in regulating transgressive behaviour (Deonna et al., 2011; Ferguson et al., 2000), but high levels of intense shame are associated with internalizing problems (e.g., anxiety, depression, etc.), substance abuse, and an increase in transgressive or aggressive behaviour when combined with externalizing coping styles (Dearing et al., 2005; Elison et al., 2006; Schalkwijk et al., 2016a; Stuewig et al., 2010). Clinically, a mature conscience is seen to be characterized by a relative dominance of guilt-proneness over shame-proneness and by a dominance of internalizing coping (e.g., blaming oneself, or withdrawal) over externalizing coping, such as blaming others (Schalkwijk, 2014; Schalkwijk et al., 2016a).

In low levels of moral reasoning, one’s own perspective is still the central focus and starting point for making moral judgments (‘callous self-centering’).
This self-centeredness is predictive of antisocial behaviour and is referred to as a primary cognitive distortion (Gibbs, 2019). A broadened, decentralized perspective provides the basis for weighing interests and forming moral judgments. It is assumed that many offenders are able to broaden or change their perspective and know that their behaviour is morally incorrect, and therefore experience guilt or shame, but that they neutralize these self-conscious emotions by using cognitive distortions. The use of irrational or exaggerated thoughts enables them to see their own behaviour as acceptable or even justified (Brugman et al., 2011). These so-called secondary distortions are self-serving distortions, as they protect the self from feelings of guilt or shame prior to and/or after committing transgressive behaviour (Barriga et al., 2001; Brugman et al., 2011).

Previous studies based on the integrative theory of conscience found that (predominantly male) offenders showed less affective empathy, less shame and shame-proneness, and lower levels of moral reasoning than non-offenders (Schalkwijk et al., 2016a; Verkade et al., 2019). While women in general show higher levels of moral reasoning and are less utilitarian in their reasoning than men (Fukushima & Hiraki, 2006; Schalkwijk et al., 2016a; Verkade et al., 2019; Ward & King, 2018; You et al., 2011; Youssef et al., 2011), female offenders showed the same deficiencies as male offenders (Verkade, Karsten, & Koenraadt, submitted). Female offenders seem as self-centered as male offenders, and seem to use as many self-serving cognitive distortions. However, as in the general population, among offenders females have shown higher levels of guilt, shame, and shame-proneness than their male counterparts (Ferguson & Crowly, 1997; Ferguson et al., 2000; Lutwak et al., 2001). These higher levels of self-conscious emotions in female offenders could be explained by higher levels of empathic arousal, in the sense that they reported more personal distress than male offenders in seeing someone else suffering or being harmed (Verkade, Karsten, & Koenraadt, submitted). In addition, in response to self-evaluative feelings of guilt and shame, female offenders showed significantly more internalizing coping strategies than male offenders, who were more likely to externalize their shame. This finding is in line with findings in the general population that women are more prone than men to internalizing coping styles (Ferguson et al., 2000). It also corresponds with the findings of Ferguson and Crowly (1997), that although men and women report similar fantasized desires to engage in hostile responses to frustration, men report much more frequent actual expressions of hostility. Tangney et al. (2000) also showed that women show a greater actual tendency to aggress against themselves, to hold in their anger, to discuss the incident with the target, to leave the field, or to cognitively reappraise their own role in the situation than men.

While there appear to be differences in conscience functioning between male and female offenders, little is known about the difference in conscience
functioning between women who offend and to those who do not. As yet, only one study has compared adult female offenders with women from the general population. In this study, in levels of empathy and moral reasoning, female offenders more closely resembled their male counterparts than women from the general population (Watt et al., 2000). Another study, conducted with adolescents, found that female offenders score higher than female non-offenders on personal distress, or empathic arousal, and use more externalizing strategies in coping with shame (Schalkwijk et al., 2016a).

To address this lack of research and knowledge on female conscience functioning and offending is necessary because globally the numbers of female offenders are rising, and the gender gap in offending seems to be narrowing (Bartlett & Hollins, 2018; Stevens et al., 2011; De Vogel et al., 2016). Female offenders should be studied not only in comparison to male offenders, as in most studies, but also in comparison to controls of their own gender. All too often it has been assumed that male and female offenders deviate in the same way from their non-offending counterparts (Murdoch et al., 2012). It has also been assumed that ‘what works’ in treatment and prevention programs for male offenders is also effective for female offenders. Although interventions based on research in males are indeed shown also to be effective in female offenders (Dowden & Andrews, 1999), gender-informed interventions appear to have significantly more effect on prevention of recidivism (Gobeil et al., 2016). Therefore, this study aims to increase knowledge on the specifics of female conscience functioning, based on female offenders compared to non-offenders. This could ultimately enable customization of treatments to the specific needs of female offenders, thus lead to better prevention.

The present study investigates conscience functioning in female offenders. Female offenders are compared to female non-offenders on all underlying constructs of conscience: empathy (cognitive empathy and affective), self-conscious emotions (guilt and shame), shame coping (internalizing or externalizing), and levels of moral reasoning. The international literature shows that approximately 65% of male prisoners and 42% of female prisoners are diagnosed with at least one personality disorder (Fazel & Seewald, 2012). Research in prison populations in the Netherlands showed similar or even higher prevalence rates and comorbidity (Bulten & Nijman, 2009; Matthaei et al., 2002). Therefore, two control groups were used: non-offenders from the general population (further mentioned as community controls), and a group of non-offending patient controls.

Based on the literature comparing offenders to non-offenders on the individual components of conscience, the following was hypothesized:

(1) Female offenders report less empathy, less guilt and shame, and lower levels of moral reasoning than female patient controls and community controls;
(2) In response to self-conscious emotions, female offenders report less adaptive coping, more externalizing coping and less internalizing coping than female patient controls and community controls;

The next two hypotheses pertain to within-group comparisons, based on the assumption that a mature conscience is characterized by a relative dominance of guilt-proneness over shame-proneness, and a dominance of internalizing coping over externalizing coping. Therefore, it was expected that:

(1) Female offenders and patient controls are more prone to shame than guilt, while female community controls are more prone to guilt than shame;
(2) Female patient controls and community controls rely relatively more on internalizing coping, while female offenders rely primarily on externalizing coping.

**Method**

**Sample**

The study group consisted of 38 adult female offenders detained in a Dutch prison, with a mean age of 41.73 (SD = 10.70). They were convicted for property offences (n = 10; 30.3%), drug-related crimes (n = 2; 6.1%), arson (n = 1; 3.0%), theft involving violence or extortion (n = 2; 6.1%), maltreatment (n = 2; 6.1%), (threats of or attempted) homicide (n = 7; 21.2%), or for offences in multiple categories (n = 6; 18.2%), and 8 were still awaiting trial (9.1%). For confidentiality reasons, we could not collect data on individual diagnostics, but drug-related problems were self-reported in 16.7% of the offenders.

Non-offending patient controls (n = 37) with a mean age of 36.62 (SD = 12.03), were recruited in an outpatient and day care clinic at a mental health care institution. They reported no convictions. Community controls (n = 77), with a mean age of 35.01 (SD = 13.66), were recruited online from the general population and reported that they had never been convicted of any crime. None of the controls self-reported drug related problems. Offenders appeared to be significantly older than community controls: t(112) = 2.63, p = .01. They did however not differ in age from the patient controls, nor did the patient controls and community controls differ significantly in age. Participation was voluntary, and subjects with insufficient command of the Dutch language or active psychotic symptoms were excluded. The total population consisted of 152 adult respondents (Table 1). The study was approved by the Ethics Committee of the Psychology Department of the University of Groningen.
Table 1. Demographic data: Age, educational level, country of origin.

<table>
<thead>
<tr>
<th></th>
<th>Offenders</th>
<th>Non-offenders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 38)</td>
<td>(n = 114)</td>
</tr>
<tr>
<td></td>
<td>Patient controls</td>
<td>Community controls</td>
</tr>
<tr>
<td></td>
<td>(n = 37)</td>
<td>(n = 77)</td>
</tr>
<tr>
<td>Highest educational level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(%) primary school</td>
<td>13.2 %</td>
<td>-</td>
</tr>
<tr>
<td>secondary school</td>
<td>52.5 %</td>
<td>21.6 %</td>
</tr>
<tr>
<td>vocational training</td>
<td>15.8 %</td>
<td>37.8 %</td>
</tr>
<tr>
<td>bachelor’s degree</td>
<td>10.5 %</td>
<td>27.0 %</td>
</tr>
<tr>
<td>master’s degree</td>
<td>-</td>
<td>8.1%</td>
</tr>
<tr>
<td>Country of origin (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands/ Western Europe</td>
<td>86.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Surinam / Dutch Caribbean</td>
<td>8.1%</td>
<td>-</td>
</tr>
<tr>
<td>Asian country</td>
<td>2.7%</td>
<td>-</td>
</tr>
<tr>
<td>Latin America</td>
<td>2.7%</td>
<td>-</td>
</tr>
</tbody>
</table>

Measures

For the sake of comparability of the studies in conscience functioning, the current authors chose to use the same questionnaires as much as possible as those used in the first study by Schalkwijk and colleagues (2016a). However, their instrument for the measurement of moral reasoning was not suitable for adults. For this reason, in the present study the How I Think questionnaire (HIT; Brugman et al., 2011, 2011) was the instrument of choice.

Empathy. The Interpersonal Reactivity Index (IRI: Davis, 1983) measures various aspects of empathy, or ‘trait empathy’ (Van Der Graaff et al., 2016). It consists of 28 items rated on a 5-point Likert scale, divided over four subscales of seven items, with higher scores representing higher levels of empathy. Perspective Taking (PT) measures the tendency to spontaneously attempt to cognitively put oneself in another’s position and is seen as cognitive empathy (De Corte et al., 2007; Jolliffe & Farrington, 2004). Affective empathy was measured by Empathic Concern (EC), referring to feelings of warmth, compassion or care for others. (Jolliffe & Farrington, 2004; Van Der Graaff et al., 2016). Empathic arousal, or emotional contagion, as the most rudimentary form of affective empathy, is addressed in Personal Distress (PD), measuring self-oriented feelings of anxiety and discomfort caused by observing another’s negative experience (De Corte et al., 2007; Hoffman, 2000; Schalkwijk et al., 2016a). Fantasy (Fs) measures the tendency to put oneself into the emotions and actions of people in (fictitious) situations, and is due to lack of clarity, often not used in studies (Jolliffe & Farrington, 2006; Van Der Graaff et al., 2016). Cronbach's alpha coefficients for the subscales of the Dutch translation are good for Fantasy (α = .83) and acceptable for Perspective taking (α = .73), Empathic concern (α = .73) and Personal Distress (α = .77: De Corte et al., 2007). In the present study, internal
consistencies were good for Perspective Taking ($\alpha = .80$) and Personal Distress good ($\alpha = .841$), and acceptable for Empathic Concern ($\alpha = .76$) and Fantasy ($\alpha = .86$).

**Proneness to shame and guilt, and coping.** The Test of Self Conscious Affects (TOSCA: J.P. Tangney et al., 1989; Tangney & Dearing, 2002; Dutch translation for adults: Fontaine et al., 2001; Luyten et al., 2002) measures the proneness to experience temporary shame and guilt in different situations. Fifteen scenarios, each involving a positive or negative event and thoughts regarding Guilt (15 items), Shame (15 items), Externalization (15 items), and Detachment (10 items), are scored on a 5-point Likert scale. Higher scores represent higher levels of guilt or shame. Respondents thereby indicate the extent of their tendency to experience guilt or shame. Two subscales measure the way of coping with these self-conscious affects: Externalization of guilt, and Detachment from the situation. In the previous study of Schalkwijk and colleagues, the internal consistencies for all subscales were comparable with those of the original TOSCA (Cronbach’s alpha: Guilt $\alpha = .82$, Shame $\alpha = .83$, Externalization $\alpha = .78$, and Detachment $\alpha = .60$; 2016). For the scales used in the present study, we found that Cronbach’s alphas were moderate for Guilt ($\alpha = .67$) and acceptable for Shame ($\alpha = .78$).

The Compass of Shame Scale (CoSS: Elison et al., 2006, Dutch translation: Schalkwijk et al., 2016b) examines how individuals cope with shame. The 40-item CoSS consists of four potentially shame-inducing situations, followed by ten possible ways of reacting to these situations. The respondent is asked to indicate on a five-point scale whether she: 1 (never), 2 (almost never), 3 (sometimes), 4 (frequently), or 5 (almost always) reacts in the given ways. The items and scripts are divided into one scale, Shame Proneness (four items), and five scales that measure shame coping: In healthy Adaptive coping scale (eight items), the shame is acknowledged and evaluated, with reparatory behaviour as the action tendency (Elison et al., 2006; Nathanson, 1992). Scales for maladaptive coping are divided into the internalizing coping strategies Attack Self (four items) and Avoidance (hiding or withdrawing from the situation: four items), and the externalizing strategies Denial (taking emotional distance or trivializing the situation: twelve items) and Attack Other (eight items). For the Dutch translation, the internal consistencies (Cronbach’s alpha) are good for Shame-proneness ($\alpha = .87$) and Attack Self ($\alpha = .86$), and acceptable for Avoidance ($\alpha = .75$), Denial ($\alpha = .75$), Attack Other ($\alpha = .76$) and Adaptive ($\alpha = .77$; Schalkwijk et al., 2016b). In the present study, internal consistency reliabilities were excellent for Shame-proneness ($\alpha = .902$) and Attack Self ($\alpha = .933$), good for Denial ($\alpha = .84$), Attack Other ($\alpha = .86$), and Adaptive ($\alpha = .82$) and acceptable/good for Avoidance ($\alpha = .80$).

**Moral reasoning.** In the How I Think questionnaire (HIT: Barriga et al., 2001; Brugman et al., 2011) a low level of moral reasoning is operationalized as a stable style of externalizing problem behaviour, using cognitive
distortions. For this questionnaire, 54 items are rated on a 6-point Likert scale, with higher scores representing more cognitive distortions. The primary cognitive distortion is addressed under Self-centeredness (nine items). In addition, the HIT contains three subscales for secondary and self-serving cognitive distortions: Blaming others (blaming external causes: ten items), Minimizing/Mislabeling (nine items) and Assuming the Worst (attributing hostile intentions to others and regarding one’s own behaviour as unavoidable or unchangeable: eleven items). Cronbach’s alpha coefficients for the four scales reflecting the cognitive distortions in the Dutch translation vary from .74 to .80 (Nas et al., 2008). Internal consistencies in the present study were good for all subscales (α = .814 for Self-Centeredness, α = .85 for Blaming Others, α = .83 for Minimizing/Mislabelling, and α = .85 for Assuming the Worst).

**Procedure**

All respondents were informed about the study by means of a leaflet requesting their participation, which entailed the one-time completion of a set of questionnaires. Written informed consent was obtained from all participants prior to participation. The study was approved by the Ethics Committee of the Psychology Department of the University of Groningen.

**Statistical analyses**

Prior to analyses, assumptions of linearity, homogeneity of variance, and normality were checked. Normality and homoscedasticity were violated for most of the outcome scales. Therefore, for the first two hypotheses the nonparametric Kruskall-Wallis test was used for those outcome scales that showed violations, and ANOVA’s with simple contrasts for those outcome scales that had no violations, controlled for age. A posthoc Bonferoni-Holm correction was added to correct for multiple testing (Armstrong, 2014). For the third and fourth hypotheses in within-group comparisons, Wilcoxon signed rank tests were used.

**Results**

Correlations between the subscales representing the constituent aspects of conscience indicate that most scales were weakly related, suggesting related but distinct aspects of conscience (Table 2).

In the first hypothesis, female offenders were expected to show less empathy, self-evaluative emotions, and lower levels of moral reasoning expressed as higher self-centering and more use of secondary distortions than non-offending controls. This hypothesis was partly confirmed.
Table 2. Correlation matrix Spearman’s rho, from the scales contributing to the components of conscience.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>EC</td>
<td>.315**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Fs</td>
<td>.166*</td>
<td>.374**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PD</td>
<td>−.004</td>
<td>.047</td>
<td>.146</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Guilt</td>
<td>.196*</td>
<td>.430**</td>
<td>.160*</td>
<td>.007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Shame</td>
<td>−.153</td>
<td>.237**</td>
<td>.124</td>
<td>.097</td>
<td>.499**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Shame Proneness</td>
<td>−.137</td>
<td>.315**</td>
<td>.190*</td>
<td>.189*</td>
<td>.259**</td>
<td>.569**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Self-Centeredness</td>
<td>−.288**</td>
<td>−.236**</td>
<td>−.013</td>
<td>.172*</td>
<td>−.296**</td>
<td>−.073</td>
<td>.025</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Blaming Others</td>
<td>−.176*</td>
<td>−.187*</td>
<td>.002</td>
<td>.215**</td>
<td>−.298**</td>
<td>−.031</td>
<td>.033</td>
<td>.794**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Minimizing/Mislabeling</td>
<td>−.180*</td>
<td>−.197*</td>
<td>−.021</td>
<td>.155</td>
<td>−.247**</td>
<td>−.057</td>
<td>.052</td>
<td>.789**</td>
<td>.837**</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Assuming the Worst</td>
<td>−.336**</td>
<td>−.228**</td>
<td>−.077</td>
<td>.284**</td>
<td>−.285**</td>
<td>.025</td>
<td>.116</td>
<td>.762**</td>
<td>.845**</td>
<td>.764**</td>
</tr>
</tbody>
</table>

Note. *p < .05, **p < .01, ***p < .001 (2-tailed).
scored lower than community controls but higher than patient controls on cognitive empathy (PT), but neither to a significant degree. They did, however, as hypothesized, show significantly less affective empathy (EC) than both non-offending groups, with large effect sizes. Remarkably, offenders showed higher levels of Personal Distress (PD), or empathic arousal, upon seeing someone else suffering or harmed than did the community controls (with medium to large effect size), but levels of offenders and patient controls were comparable. Offenders also showed significantly less Fantasy than both non-offending groups, with medium effect sizes (Table 3). These significant differences found for affective empathy remained intact after controlling for age: \( F(2, 148) = 10.97, p < .001, \eta^2 = 0.13 \) and there was no age effect \( F(1, 149) 0.87 \ p = .35. \) The absence of group differences in cognitive empathy (PT) stayed the same: \( F(2, 148) = 2.58, p = .08, \) also with no age effect \( F(1, 149) = 2.47, p = .18. \)

Contrary to our expectations, no differences were found between offenders and community controls on Guilt and Shame. Offenders however did score lower than patient controls on Guilt, Shame (both with small to medium effect sizes) and Shame proneness (with large effect size), as did community controls (Table 3). The findings regarding Shame proneness remained intact after controlling for age: \( F(2, 148) = 21.77, p < .001, \eta^2 = 0.23, \) and age did not have an effect \( F(1, 149) = 2.41, p = .12. \)

In moral reasoning however, female offenders did show more cognitive distortions than both groups of female non-offenders. They showed more Self-Centeredness than both control groups. On visual inspection, some of the offenders showed levels comparable to those of non-offenders, but a substantial subset showed high levels of callous self-centeredness. Female offenders also used more secondary distortions: they showed more Blaming Others and Assuming the Worst than both control groups. No significant differences were found for Minimizing/Mislabeling. Effect sizes for all of these differences in moral reasoning were medium to large (Table 3).

The second hypothesis, addressing the ways women cope with shame, was also partly confirmed. Offenders showed fewer adaptive coping strategies than both patient controls and community controls, with large effect sizes. No significant differences were found for the tendency to use Externalizing coping styles, and offenders did not differ from community controls in the amount of Internalizing. However, they did show less Internalizing than the patient controls, with large effect size (Table 3). The differences found for both Adaptive coping and Internalizing remained intact, without an effect of age. Respectively for Adaptive coping \( F(92, 147) = 14.71, p < .001, \eta^2 = 0.17, \) and age \( F(1, 149) = 0.30, p = .80 \) and for Internalizing \( F(2, 148) = 23.20, p < .001, \eta^2 = 0.24, \) and age \( F(1, 149) = 0.02, p = .88. \)

The next two hypotheses, concerning moral conscience functioning, were tested by within-group comparisons, using the Wilcoxon signed rank
Table 3. Descriptives and differences between female offenders and patient controls in empathy, guilt, shame, coping with shame, and moral reasoning.

<table>
<thead>
<tr>
<th></th>
<th>Offenders</th>
<th>Patient controls</th>
<th>Community controls</th>
<th>Differences overall</th>
<th>Differences Offenders vs. Comm.-controls</th>
<th>Differences Offenders vs. Patient controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 38)</td>
<td>(n = 37)</td>
<td>(n = 77)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M/Mdn SD/IQR</td>
<td>M/Mdn SD/IQR</td>
<td>M/Mdn SD/IQR</td>
<td>Test statistic $\eta^2$</td>
<td>Contrast Estimate/U Effect size</td>
<td>Contrast Estimate/U Effect size</td>
</tr>
<tr>
<td>IRI-PT</td>
<td>18.05 5.01</td>
<td>16.30 5.01</td>
<td>18.60 5.12</td>
<td>$F = 2.39$ 0.03</td>
<td>0.55 0.10</td>
<td>−1.755 0.33</td>
</tr>
<tr>
<td>IRI-EC</td>
<td>16.63 4.32</td>
<td>21.00 4.45</td>
<td>19.44 4.08</td>
<td>$F = 10.45$ *** 0.12</td>
<td>2.81*** 0.63</td>
<td>4.37*** 0.97</td>
</tr>
<tr>
<td>IRI-FS§</td>
<td>11.00 9.00</td>
<td>17.00 8.00</td>
<td>17.00 8.00</td>
<td>$H = 12.90$ **</td>
<td>-2.07050*** 0.34</td>
<td>925.00* 0.27</td>
</tr>
<tr>
<td>Guilt§</td>
<td>3.67 0.73</td>
<td>4.00 0.60</td>
<td>3.87 0.53</td>
<td>$H = 6.34$ *</td>
<td>0.10 0.10</td>
<td>668.50 −0.04</td>
</tr>
<tr>
<td>Shame§</td>
<td>2.87 0.63</td>
<td>3.53 0.80</td>
<td>3.07 0.77</td>
<td>$H = 14.62$ ***</td>
<td>0.09 0.09</td>
<td>1,030.50*** 0.40</td>
</tr>
<tr>
<td>Shame-proneness</td>
<td>2.87 0.84</td>
<td>4.10 0.74</td>
<td>3.06 0.97</td>
<td>$F = 22.07$ *** 0.23</td>
<td>0.01 0.01</td>
<td>1.23*** 1.22</td>
</tr>
<tr>
<td>Internalizing§</td>
<td>4.94 1.89</td>
<td>4.96 1.95</td>
<td>4.96 1.95</td>
<td>$F = 23.24$ *** 0.24</td>
<td>0.01 0.01</td>
<td>2.38*** 1.14</td>
</tr>
<tr>
<td>Externalizing§</td>
<td>4.96 1.93</td>
<td>4.63 1.25</td>
<td>4.63 1.25</td>
<td>$H = 2.30$</td>
<td>- -</td>
<td>-</td>
</tr>
<tr>
<td>Adaptive coping</td>
<td>3.37 0.76</td>
<td>3.02 0.55</td>
<td>3.67 0.55</td>
<td>$F = 14.21$ *** 0.16</td>
<td>0.05 0.05</td>
<td>-0.35** 0.52</td>
</tr>
<tr>
<td>Self-centeredness§</td>
<td>2.11 1.72</td>
<td>1.44 0.89</td>
<td>1.44 0.72</td>
<td>$H = 9.13$ *</td>
<td>0.27 0.27</td>
<td>473.50* −0.28</td>
</tr>
<tr>
<td>Blaming Others§</td>
<td>2.20 1.25</td>
<td>1.60 0.60</td>
<td>1.50 0.85</td>
<td>$H = 14.95$ ***</td>
<td>-854.50*** −0.34</td>
<td>412.50*** −0.36</td>
</tr>
<tr>
<td>Minimizing§</td>
<td>1.78 1.50</td>
<td>1.44 0.67</td>
<td>1.67 0.78</td>
<td>$H = 3.55$</td>
<td>- -</td>
<td>-</td>
</tr>
<tr>
<td>Assume Worst§</td>
<td>2.27 1.18</td>
<td>1.55 0.64</td>
<td>1.45 0.73</td>
<td>$H = 24.99$ ***</td>
<td>-667.00*** −0.44</td>
<td>421.00*** −0.35</td>
</tr>
</tbody>
</table>

Note. *$p < .05$, **$p < .01$, ***$p < .001$ (2-tailed). Adjusted alpha's after Bonferroni-Holm ranged from $\alpha < .004$ to $\alpha < .05$.

- $M =$ Mean, $SD =$ standard deviation, $Mdn =$ Median, $IQR =$ interquartile range.
- $§$For these scales, the non-parametric Kruskall-Wallis test was used, we report $Mdn; IQR; H; U$ and effect size $r$.
- For the other scales we used ANOVA, and report $M, SD, F, \eta^2$, contrast estimate, and effect size $d$. 


Table 4. Relative dominance of Guilt over Shame in offenders, patient controls and community controls, using Wilcoxon signed rank test.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Guilt</th>
<th>Mdn</th>
<th>Shame</th>
<th>T</th>
<th>z</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offenders</td>
<td>38</td>
<td>3.667</td>
<td>2.867</td>
<td>680.000***</td>
<td>4.490</td>
<td>0.728</td>
<td></td>
</tr>
<tr>
<td>Patient controls</td>
<td>37</td>
<td>4.000</td>
<td>3.533</td>
<td>649.000***</td>
<td>4.968</td>
<td>0.817</td>
<td></td>
</tr>
<tr>
<td>Community controls</td>
<td>77</td>
<td>3.867</td>
<td>3.067</td>
<td>2,926.000***</td>
<td>7.577</td>
<td>0.863</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05, **p = < .010, ***p = < .001 (2-tailed).
test. The third hypothesis that female offenders and patient controls are more prone to shame than guilt, while female community controls are more prone to guilt than shame, was not confirmed (Table 4). Within all three groups Guilt was significantly dominant over Shame, with large effect sizes.

The fourth hypothesis was that female patient controls and community controls would use relatively more internalizing than externalizing coping, and female offenders would rely primarily on externalizing coping. This was not confirmed. Wilcoxon signed rank test comparing Internalizing and Externalizing coping within all groups, showed in female offenders no difference between internalizing and externalizing coping strategies. Similar results were found for the non-offending community controls. Only patient controls showed the expected dominance of internalizing over externalizing ($t = 11.000, p < .001, r = −0.844$).

**Discussion**

The purpose of this study was to gain more insight into female conscience functioning and offending, by comparing female offenders to female non-offenders. Female offenders indeed appeared to differ in conscience functioning from female non-offenders; this is in line with the findings of Watt, Frausin, Dixon, and Nimmo, that female offenders resembled their male counterparts more than women from the general population (2000). They showed lower levels of the mature forms of affective empathy, i.e. empathic concern, and they put themselves less in another’s position emotionally than did non-offenders. Instead, they experienced the more rudimentary and self-oriented form of affective empathy (i.e., empathic arousal or emotional contagion) in levels comparable to patient controls. This corresponds with the findings of previous studies (Mariano et al., 2017; Schalkwijk et al., 2016a), and suggests that female offenders differ from female non-offenders in their development of emotion- and self-regulation. This possible lack of maturation is also in line with the findings of Hawk et al. (2013) that early adolescents score lower on fantasy and empathic concern, and higher on personal distress than late adolescents. Female offenders appear to differ from female non-offenders in that their affective empathy is stagnated at the developmental level of preliminary affective empathy: the feeling of another’s sufferings as one’s own, without the essential as-if quality. Self and other seem still to be merged, insufficiently separated, and one’s feelings of personal distress in seeing other’s suffering are overwhelming and under regulated; because the offender is swept up in the other, she cannot be truly empathic (Eisenberg & Eggum, 2009; Ickes, 2009). In addition, a subgroup of female offenders is highly self-centered. This group of female offenders may most resemble male offenders (De Hart, 2018).
Female offenders showed comparable levels of guilt and shame as community controls, but without the underlying levels of fantasy or empathic concern present in the latter. They also did not differ from controls in cognitive empathy. Taken together, this could suggest that the guilt or shame felt after transgressive behaviour is fueled merely by cognitive empathy or theory of mind, rather than by affective empathy. However, offenders did show less guilt, shame, and shame-proneness than patient controls. That patient controls scored significantly higher on shame and shame-proneness than did both offenders and community controls, aligns with the finding that high or intensive shame levels are associated with internalizing pathology (Dearing et al., 2005). In addition, offenders appeared not only to be more self-centered than non-offenders, possibly hindering self-evaluation and therefore regulation by self-conscious emotions, but they also use more secondary cognitive distortions to neutralize feelings of shame in anticipation of or reflection on transgressions. It is possible that potential shame after transgressing is neutralized by using cognitive distortions as a shield. The same shield would not be needed for the community controls, who are less affected by shame and who cope with it using adaptive strategies. And this shield is also not used by patient controls, who feel more shame but seem to internalize it more. This is in line with our findings that offenders and community controls internalize shame significantly less than patient controls, and that offenders use adaptive coping strategies significantly less than both control groups.

**Implications**

We found that female offenders show levels of cognitive empathy or theory of mind comparable to those of non-offenders, but lower propensities to affective empathy. They also show more under regulated empathic arousal, which puts them at risk of emotional merging and of overwhelming personal distress, both of which hinder true empathy. These findings have important implications for the treatment of female offenders. Treatment and prevention programs should focus on helping female offenders to see the self, differentiated from another person with his or her own perspective, feelings and cognitions. The higher self-centeredness in offenders indicates that female offenders need to learn to differentiate from another, and to decentralize. Female offenders, in sum, need help to own their own feelings and to learn to think about and understand them, but to also mentalize the thoughts and feelings of others who come from other perspectives and backgrounds (Bateman & Fonagy, 2016). Capacities to empathize and self-regulate can prevent them from becoming swept up in another. Offending in females further seems to be associated with a lack of adaptive coping, rather than with an excessive externalization of shame, as is the case in male offenders.
(Verkade et al., submitted). This suggests a need for a slightly different focus in treatment.

**Limitations and further research**

When interpreting the findings of this study, the following limitations must be taken into account. First, the small sample size may diminish the generalizability of the outcomes. Generalizability can also be compromised because of the lack of collateral information on (history of) offending for all groups, which may make it possible that, despite the self-reported differences in offending, there is an actual overlap between samples that is not being controlled for. Also, a possible limitation of the study is that offenders and community controls differed significantly in age. It is thus a possibility, that the differences found are not due to group membership, but an effect of age. However, due to multiple violations of the assumptions for ANOVAS, non-parametrical analysis were used for nine of the fourteen scales reflecting the constituent aspects of conscience. As these analyses do not lend themselves to the use of covariates, possible effects of age could not be tested in those scales. However, of the aspects of conscience that were analyzed controlling for age, none were significantly influenced.

A second limitation is that the functioning of the conscience can vary greatly per situation or context (Schalkwijk, 2014, 2018; Schalkwijk et al. (2016a). The question, therefore, should always be what the facilitating or inhibiting influence of the conscience was in committing the particular offence, in the particular context and point in time. As Finkel and Hall stated in their $I^3$ theory: we need to analyze what the *instigating*, *impelling* and *inhibiting factors* were at that particular moment in time (Finkel & Hall, 2018). Moreover, we must always consider other criminogenic risk/need factors such as the central eight (Andrews et al., 2006), or other dynamic risk factors which may have put the particular offender at risk. Such as severe psychopathology, or severe financial problems whilst being responsible for raising children (De Vogel et al., 2016). Research literature points to so-called gender-specific risk factors, such as criminality as alternative for hunger (especially when children are involved), financial marginalization, prostitution, or the intertwining of victimization and offending, which must be taken into account (Ferranti et al., 2013; Heilbrun et al., 2008; Joosen & Slotboom, 2015; De Vogel et al., 2016).

A third limitation is that the use of only self-report measures on the aspects of both conscience functioning and offending. Due to privacy regulations, neither could be verified through collateral information such as official records on offending, or observations of their empathic abilities. As an objective method of verification, future research could include the additional use of those data, or of direct assessments of the aspects of conscience
functioning. For example, Mariano et al. (2017) used both self-report measures and assessments to evaluate empathy in (predominantly male) offenders and non-offenders. Rather than in the questionnaires, deficits were more clearly shown in assessments using the Eyes task, a revised version of the Reading the Mind in the Eyes Test (which identifies emotions or mental state in another’s eyes), and emotional attribution tasks (which revealed deficits in the recognition of sadness and fear).

Finally, these outcomes may not generally apply to all kinds of female offenders. Offending may include severe transgressions warranting detention, but also less severe transgressions, which can be punished by other means. Findings based on the first group may not apply to the second group. Additionally, acts defined as criminal in the laws of one nation may differ in other countries (Koenraadt, 2010). The state of the investigation and prosecution services, their selected priorities, resources and possibilities, and potential biases also play a role in who is ultimately considered an offender. Therefore, although the participating female offenders were representative of the Dutch offending population, these findings may not apply to female offenders in general, on an international level.

Due to the small sample size, especially of the offender group, it was not possible to investigate whether the differences found are similar across different types of offenders (e.g., offenders involved in property crimes versus violent crimes, or drug-abusing offenders versus non-using offenders). This suggests an interesting avenue for future research.

Conclusion

In this study, female offenders showed levels of cognitive empathy comparable to female non-offenders. They experienced levels of self-conscious emotions comparable to community controls, but much lower than non-offending patients. Female offenders showed significant deficits in affective empathy, self- and emotion-regulation, as well as in the use of adaptive strategies in coping with shame. They appeared to be more self-centered and instrumental than non-offenders, and to make more use of secondary cognitive distortions in fencing off feelings of guilt or shame. Interventions should therefore focus on helping offenders to own their own feelings, to learn to mentalize them, to decentralize (Bateman & Fonagy, 2016), and to learn to empathize and self-regulate. In addition to striving for behavioural change and alleviating possibly related complaints, the treatment of female offenders will then focus more on underlying, basic skills that are inadequate and that are related to their transgressive behaviour.
Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Disclosure statement

No potential conflict of interest was reported by the authors.

References


