Conscientiousness and forgivingness: A meta-analysis

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Abstract

Research examining the relationship between the Big Five traits and forgivingness has focused primarily on the traits agreeableness and neuroticism. To date, there are mixed findings on the relationship between conscientiousness and forgivingness. This paper presents research and theory that predicts a positive relationship between conscientiousness and forgivingness, and, in order to examine this hypothesis, conducts a quantitative review of 15 studies (n = 2285) reporting this relationship. This analysis results in a small positive effect size (r = .17). Implications and directions for future research are discussed.

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1. Introduction

When transgressions occur in relationships, forgiveness is an essential psychological process relevant to resolving conflict and sustaining the relationship. Forgiveness is defined as resolving negative resentment-based motivation, cognitions, and emotions (Worthington, Van Oyen Witvliet, Pietrini, & Miller, 2007). Prior theory and research has considered forgiveness as both a state motivational process and as an individual disposition. Recently, much attention has been directed towards understanding the forgiving personality. Initial attempts have measured trait forgivingness, termed forgivingness, and related this construct to the Big Five personality dimensions.

The theory of these research efforts has focused primarily on the relationship between forgivingness and its hypothesized positive relationship with agreeableness (Ashton, Paunonen, Helmes, & Jackson, 1998; Berry, Worthington, Parrott, O’Connor, & Wade, 2001; Brown, 2003; Walker & Gorsuch, 2002) and negative relationship with neuroticism (Berry et al., 2001; Brown, 2003; Walker & Gorsuch, 2002). While this research has generally supported predictions of these relationships, the other three Big Five traits, conscientiousness, extraversion, and openness, are less clearly related to forgivingness. For instance, several studies have reported a non-significant relationship between conscientiousness and forgivingness (Ashton et al., 1998; Berry et al., 2001, study 2 and 4; Berry, Worthington, Parrott, O’Connor, & Wade, 2005; study 2; Brose, Rye, Lutz-Zois, & Ross, 2005; Brown, 2003; Maltby et al., 2008; Ross, Kendall, Matters, Wrobel, & Rye, 2004), while other studies report a significant positive relationship (Berry et al., 2001, study 3; Berry et al., 2005, study 1 and 3; Leach & Lark, 2004; Shepherd & Belicki, 2008). In another relevant study, McCullough, Bellah, Kilpatrick, and Johnson (2001) found a significant negative relationship between conscientiousness and vengefulness. Vengefulness is considered the disposition to seek revenge after an interpersonal offense and this construct is negatively related to forgiveness. Indeed, all of the above mentioned research did not predict a relationship between conscientiousness and forgivingness. The current research aims to address this gap in the literature by presenting theory and research that suggests a positive relationship between conscientiousness and forgivingness and, in order to examine this hypothesis, conducts a quantitative review of the literature reporting this relationship.

1.1. Conscientiousness and forgivingness

At least two lines of research support a positive relationship between conscientiousness and forgivingness. According to interdependence theory, forgiveness can be viewed as a transformation of motivation from an initial gut-level desire to express revenge to a more benign prosocial preference for accommodating a partner’s transgression (Yovetich & Rusbult, 1994). Finkel and Campbell (2001) argue that the ability of self-control, a sub-facet of conscientiousness (Roberts, Chernyshenko, Stark, & Goldberg, 2005), aids the process of this transformation of motivation. In a series of studies, these researchers found that individuals high in self-control were more inclined to engage in prosocial behaviors...
in response to their partner’s inconsiderate behavior. Self-control may include participants thinking about the long-term benefits of accommodation or regulating their emotions and suppressing their initial desire to exact revenge. Recent evidence suggests the importance of emotion regulation.

Jensen-Campbell, Knack, Waldrip, and Campbell (2007) found conscientious individuals are better capable of suppressing anger in response to a partner’s transgression (supported by both survey and physiological data) and are less likely to turn anger into aggression. Jensen-Campbell et al. had participants write an essay on a personally important topic and then manipulated positive and negative feedback from another participant, the evaluator, who ostensibly was participating in the same study. Afterwards, the participants who wrote the essay were allowed to assign one of six drinks to the evaluator, who would then have to consume the drink. The evaluator had already rated the pleasantness of each drink. The measure of aggression was the choice of drink assigned to the evaluator. In response to the evaluation, highly conscientious individuals self-reported less anger and showed less relative pre-frontal cortical asymmetry in brain activation, which is correlated with anger. Most importantly, however, anger only predicted aggression (choosing a very unpleasant drink for the evaluator) for individuals low on conscientiousness. Anger did not predict aggression for individuals high on conscientiousness. Therefore, highly conscientious individuals may be better able to regulate their emotions in response to a relationship partner’s transgression and are less inclined to engage in negative reciprocity. Accordingly, highly conscientious individuals are predicted to be more forgiving.

1.2. Overview of the meta-analysis

The following meta-analysis summarizes the results of 15 studies reporting the relationship between conscientiousness and forgiveness. In order to consider the magnitude of this relationship in comparison with the other Big Five traits, this analysis will be reported along with a summary of the relationships between forgiveness and the other Big Five dimensions, extraversion, openness, neuroticism, and agreeableness. While theory and prior evidence suggest that forgiveness will relate to conscientiousness (positively), neuroticism (negatively), and agreeableness (positively), less is understood about the relationship with both extraversion and openness. Therefore, the relationships between extraversion and openness predicting forgiveness will be explored as open research questions.

2. Method

2.1. Search for studies

I conducted a literature review of studies examining the relationship between the Big Five traits and forgiveness using several databases and search engines, including psycINFO, psycARTICLES, and Google Scholar. During the search I crossed the keywords conscientiousness, neuroticism, agreeableness, extraversion, openness, Big Five, and personality, by forgiveness and forgiveness. Relevant studies were searched for cited papers. Ten authors of these papers were contacted for unpublished studies. Four authors responded to the message and one unpublished study was found.

2.2. Criteria for studies

There were several criteria for selecting studies. First, all studies must have included adult participants (age 18 and above). Second, all studies had to relate a measure of the Big Five traits to dispositional forgiveness. Any studies relating the Big Five traits to state forgiveness were excluded from the analyses. The measure of dispositional forgiveness varied, including item-based measures, a measure involving several hypothetical scenarios, and a measure of vengefulness (effect size reverse coded). Lastly, prior research has shown that forgiveness relates differently to the separate sub-facets of the Big Five traits. Thus, the coded effect size had to include a measure of the broad traits and not merely a sub-facet of the trait. Lastly, if a study included multiple effect sizes, then the first eligible effect size was coded. The search resulted in 15 eligible effect sizes.

2.3. Analysis

I used the correlation coefficient as the effect size index. The computed correlations were abstracted from all manuscripts as the zero-order correlation between forgiveness and each of the Big Five traits. The overall effect size was calculated using a random effects model. This model assumes that the sample of studies is not inclusive of the population of studies examining this relationship. A random effects model is also more conservative than a fixed-effects model. This is because the random effects model weights the effect size by two error terms, including calculations of both within- and between-study variation, while the fixed-effects model only weights the effect size by a single error term, a calculation of within-study variation (Lipsey & Wilson, 2001). The random effects model was calculated using the Hedges and Olkin (1985) approach with Comprehensive Meta-Analysis Software version 2.

3. Results

The sample size and results of all 15 studies are shown in Table 1. One notable finding is that all studies report a positive relationship between conscientiousness and forgiveness.

The effect size distribution of the conscientiousness–forgivingness relationship contains more variation than would be expected by chance, $Q(14) = 23.69, p = .05$. As hypothesized, there is a small positive relationship between conscientiousness and forgiveness, $r = .17, LL = .11, UL = .22$. The distribution of effect sizes for the extraversion–forgivingness relationship contained more variation than would be expected by chance, $Q(14) = 28.85, p < .01$, and there was a small significant positive relationship $r = .09, LL = .03, UL = .15$. The openness–forgivingness effect size distribution did not contain a significant amount of variation, $Q(14) = 18.37, p = .19$, and this was also a small positive relationship, $r = .06, LL = .01, UL = .11$. Forgivingness had a small to moderate negative relationship with neuroticism, $r = -.29, LL = -.35, UL = -.24$, and the effect size distribution contained more variation than would be expected by chance alone, $Q(14) = 29.93, p = .008$. Lastly, the agreeableness–forgivingness effect size distribution contained a significant amount of variation, $Q(14) = 203.04, p < .001$, and resulted in a moderate positive relationship, $r = .43, LL = .34, UL = .52$.

The current analyses risk a publication bias. To test for this possibility, I computed Orwin’s (1983) fail-safe $N$, a statistic designed to estimate the number of results with zero correlation necessary to reduce the overall average effect size to non-significance. In the present study, Orwin’s fail-safe $N$ was 114, 56, 34, 213, and 343, for conscientiousness, extraversion, openness, neuroticism, and agreeableness, respectively. According to Hedges and Olkin (1985), to assure confidence in the results, Orwin’s fail-safe $N$ should be five times the number of studies (here, 5 x 15 = 75), plus 10 (75 + 10 = 85). Accordingly, only the effect size for conscientiousness, neuroticism, and agreeableness appear to be robust against the presence of a large number of unpublished studies finding a null result.
4. Discussion

The results of the meta-analysis support the hypothesis of a positive relationship between conscientiousness and forgivingness. Furthermore, these results seem robust against the possibility of finding several unpublished null results. Also, extraversion and openness, both had relatively smaller positive relationships with forgivingness compared to conscientiousness, and both of these findings could have resulted in a publication bias. Also, in line with prior research, forgivingness had a positive relationship with agreeableness and a negative relationship with neuroticism. An implication of the present findings is that subsequent studies examining the relationship between the Big Five traits and forgivingness should not only focus on the traits agreeableness and neuroticism, but should also consider conscientiousness.

4.1. Facets of conscientiousness and forgivingness

Prior research may not have exposed the conscientiousness–forgivingness relationship, since many of these studies lacked adequate power to detect a small effect size. Nevertheless, it may be that this particular relationship is small and difficult to detect because only a few aspects of conscientiousness predicts forgivingness. Roberts et al. (2005) finds that conscientiousness is best explained by a six factor model, including the lower order facets industriousness, orderliness, traditionalism, responsibility, virtue, and self-control. In particular, it is possible that the lower order sub-facets, self-control and/or virtue, may be responsible for the relationship between global conscientiousness and forgivingness.

Individuals who possess self-control are better able to override immediate gratifications in pursuit of long-term goals. Because relationships are often centered on long-term goals (e.g. Shah, 2003), the success of relationships may depend on whether individuals are able to control their inclinations toward immediate gratification in favor of more distal benefits. For instance, if a colleague, friend, or romantic partner conducts a transgression, one may have an immediate tendency to feel angry and upset (Yovetich & Rusch, 1994). While often anger or acts of retaliation might be necessary to avoid exploitation, an over- reliance on immediate negative reactions may lead to the termination of otherwise salvageable or productive relationships. In the tradeoff between expressing immediate anger and being forgiving for the sake of preserving long-term relationships, individuals who are high in self-control should have greater dispositional and state tendencies to forgive. In support of the forgivingness and trait self-control perspective, Moore and Dahlen (2008) found that forgivingness positively correlated with the trait concern for future consequences (CFC). Individuals high in CFC consider and are influenced by the distant future consequences of their current actions, and tend to be better at self-control, compared to individuals low in CFC (Jor- eman, Balliet, Sprott, Spangenberg, & Schultz, 2008).

Besides self-control being important for regulating behavior towards long-term goals, self-control also enhances an individual’s ability to self-regulate negative emotions (Jensen-Campbell et al., 2007). It might be that highly conscientious individuals are better able to suppress negative emotions (e.g. revenge and anger) in response to a partner’s transgression and this enables prosocial relationship building behaviors after the transgression. Subsequent research would benefit by examining the relationship between the lower order facet of conscientiousness, self-control, and its relationship with both trait and state forgiveness. This research should also consider the possible mediating processes that account for this relationship, e.g. emotion regulation and saliency of long-term goals.

Virtue, another sub-face of conscientiousness, may also more strongly relate to forgivingness, compared to other sub-facets, e.g. order or industriousness. The virtue sub-face represents the tendency to behave according to socially accepted rules and morals of behavior. Brose et al. (2005) finds that forgivingness positively relates to social desirability. It may be that conscientious individuals are more inclined to regulate their behavior according to the socially desired standards of forgiveness. In support of this perspective, dutifulness positively correlates with forgivingness (Brose et al., 2005; Walker & Gorsuch, 2002).

Additionally, it might be that conscientiousness and/or its lower order facets interact in meaningful ways with other Big Five traits to predict forgivingness. For example, it might be that conscientiousness positively relates to forgiveness for individuals who are either low on agreeableness and/or high on neuroticism. For example, simply being concerned about another’s well-being may be enough to overcome feelings of revenge. However, being able to self-regulate according to long-term goals may be more relevant to overcoming the immediate temptation to exact revenge.

### Table 1

Studies included in the meta-analysis.

<table>
<thead>
<tr>
<th>Study</th>
<th>n</th>
<th>C</th>
<th>E</th>
<th>O</th>
<th>N</th>
<th>A</th>
<th>BSM</th>
<th>FCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashton et al. (1998)</td>
<td>118</td>
<td>.09</td>
<td>-.02</td>
<td>-.17</td>
<td>-.21</td>
<td>.29</td>
<td>BFM</td>
<td>JPI-R</td>
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<tr>
<td>Berry et al. (2001) S2</td>
<td>80</td>
<td>.15</td>
<td>-.02</td>
<td>.14</td>
<td>-.29</td>
<td>.25</td>
<td>BFI</td>
<td>TNTF</td>
</tr>
<tr>
<td>Berry et al. (2001) S3</td>
<td>232</td>
<td>.24</td>
<td>.19</td>
<td>.14</td>
<td>-.27</td>
<td>.33</td>
<td>BFI</td>
<td>TNTF</td>
</tr>
<tr>
<td>Berry et al. (2001) S4</td>
<td>62</td>
<td>.16</td>
<td>.02</td>
<td>.02</td>
<td>-.32</td>
<td>.28</td>
<td>BFI</td>
<td>TNTF</td>
</tr>
<tr>
<td>Berry et al. (2005) S1</td>
<td>174</td>
<td>.41</td>
<td>.24</td>
<td>.16</td>
<td>-.41</td>
<td>.52</td>
<td>BFI</td>
<td>TFS</td>
</tr>
<tr>
<td>Berry et al. (2005) S2</td>
<td>228</td>
<td>.10</td>
<td>.03</td>
<td>.08</td>
<td>-.25</td>
<td>.55</td>
<td>BFI</td>
<td>TFS</td>
</tr>
<tr>
<td>Berry et al. (2005) S3</td>
<td>77</td>
<td>.23</td>
<td>.26</td>
<td>.01</td>
<td>-.49</td>
<td>.60</td>
<td>BFI</td>
<td>TFS</td>
</tr>
<tr>
<td>Brose et al. (2005)</td>
<td>275</td>
<td>.13</td>
<td>.18</td>
<td>.12</td>
<td>-.42</td>
<td>.40</td>
<td>NEO</td>
<td>FLS</td>
</tr>
<tr>
<td>Brown (2003)</td>
<td>101</td>
<td>.04</td>
<td>.07</td>
<td>.07</td>
<td>-.39</td>
<td>.43</td>
<td>BFI</td>
<td>TFF</td>
</tr>
<tr>
<td>Leach and Lark (2004)</td>
<td>137</td>
<td>.25</td>
<td>.23</td>
<td>-.13</td>
<td>-.31</td>
<td>.51</td>
<td>BAR</td>
<td>FO</td>
</tr>
<tr>
<td>Matros (2009)</td>
<td>102</td>
<td>.04</td>
<td>-.03</td>
<td>.15</td>
<td>-.14</td>
<td>.23</td>
<td>IPP</td>
<td>FLS</td>
</tr>
<tr>
<td>McCullough et al. (2001)</td>
<td>194</td>
<td>.24</td>
<td>.05</td>
<td>.00r</td>
<td>.07r</td>
<td>-.36 r</td>
<td>.49 r</td>
<td>BFI</td>
</tr>
<tr>
<td>Ross et al. (2004)</td>
<td>147</td>
<td>.05</td>
<td>.19</td>
<td>.10</td>
<td>-.12</td>
<td>.50</td>
<td>NEO</td>
<td>OF</td>
</tr>
<tr>
<td>Shepherd and Belicks (2008)</td>
<td>178</td>
<td>.15</td>
<td>-.10</td>
<td>.07</td>
<td>-.12</td>
<td>.75</td>
<td>HEX</td>
<td>TFS</td>
</tr>
<tr>
<td>Walker and Gorsuch (2002)</td>
<td>180</td>
<td>.13</td>
<td>.02</td>
<td>-.02</td>
<td>-.27</td>
<td>.07</td>
<td>IPP</td>
<td>FOO</td>
</tr>
</tbody>
</table>

Note: C, Conscientiousness; E, Extraversion; O, Openness; N, Neuroticism; A, Agreeableness; BSM, Big Five Measure; FCM, Forgiveness Measure; r, Reporting is reverse coded for having measured vengefulness; BFM, Big Five Mini-Markers; JPI-R, Jackson Personality Inventory-Revised; BFI, Big Five Inventory; TNTF, Transgression Narrative Test of Forgiveness; TFS, Trait Forgiveness Scale; NEO, NEO-PI-R; FLS, Forgiveness Likelihood Scale; TTF, Tendency to Forgive Scale; BAR, Bipolar Adjective Rating Scale; FO, Forgiveness of Others scale; VENG, A measure of dispositional vengeance developed by items from the FO scale; OF, A composite of several forgiveness scale loadings on a factor labeled Other Forgiveness; HEX, HEXACO-Pi measure of personality; IPIP, International Personality Item Pool.

* p < .05.
when an individual has less concern for the transgressor (low on agreeableness). Similarly, the emotion regulation capacity associated with conscientiousness may be most strongly associated with forgiveness for individuals high in neuroticism. To date, most research examining the relationship between the Big Five traits and forgiveness has primarily focused on main effects. Future research will benefit by examining these possible interactions.

On a practical note, subsequent research examining the conscientiousness–forgivingness relationship may provide insights into why certain people are more forgiving than others, which may aid counselors and clinicians in developing techniques to train the ability to forgive others. Prior research has found that training empathy improves an individual’s ability to forgive (McCullough, Worthington, & Rachal, 1997). Perhaps training self-control may result in similar outcomes and this may be especially important for individuals low in conscientiousness, high on neuroticism, or low on agreeableness. Fortunately, recent research suggests that exercising self-control can result in a greater ability for self-control (Baumeister, Gailliot, DeWall, & Oaten, 2006; Muraven, Baumeister, & Tice, 1999). Muraven et al. (1999) had participants practice self-control for two weeks (e.g. maintaining good posture or keeping a good mood) and then later compared their performance on a self-control task (a handgrip exercise) to a control condition. They found that individuals who were asked to practice self-control outperformed individuals on the self-control task, compared to individuals who were not asked to practice self-control. Although maintaining posture may seem quite unrelated to forgiveness, such techniques may be appropriately incorporated into forgiveness training programs to improve their effectiveness.

4.2. Agreeableness and neuroticism

Most research on the relationship between the Big Five traits and forgivingness has focused on agreeableness and neuroticism (e.g. Brown & Phillips, 2005). Highly agreeable individuals are thought to be more trusting, more empathetic, and motivated to maintain conflict-free relationships, which should contribute to a greater dispositional tendency to forgive others (Walker & Gorsuch, 2002). The present meta-analysis confirms this perspective by finding a moderate positive agreeableness–forgivingness relationship. On the other hand, highly neurotic individuals are more prone to experience anger, report higher levels of hostility, and tend to ruminate more about a partner’s interpersonal transgressions, compared to individuals low in neuroticism, which should result in a reduced disposition to forgive (Walker & Gorsuch, 2002). The present findings also support this hypothesis by identifying a small to moderate negative neuroticism–forgivingness relationship. Future research should consider the possible mediating factors of these relationships. For example, agreeableness may correlate with forgivingness due to individuals having enhanced trust in others and/or higher levels of empathy and perspective-taking. The neuroticism–forgivingness relationship, however, may be mediated by anxious rumination and/or an impaired emotion regulation capacity.

4.3. Extraversion and openness

Worthington (1998) hypothesized that extraversion should positively relate to forgivingness because of its relation to positive emotions and social support seeking. However, much subsequent research has failed to identify a relationship with extraversion. This meta-analysis resulted in a very small positive relationship between extraversion and forgivingness. Similarly, the analysis resulted in a very small positive relationship between openness and forgivingness. Therefore, it seems that forgivingness has no meaningful simple relationship with either extraversion or openness. One possibility is that these relationships are suppressed due to forgivingness having both positive and negative relationships with the different sub-facets of each of these global traits. For example, while Walker and Gorsuch (2002) find essentially no relationship between forgivingness and openness ($r = -.02$), at the level of sub-facets, forgivingness positively correlated with complexity ($r=.12$) and negatively with imagination ($r = -.18$). The salient message for future research here is that researchers should narrow their focus on the relationship between forgivingness and the facets of both openness and extraversion.

4.4. Limitations

The present meta-analysis does have a few limitations. First, the analysis included mostly published studies and published studies often contain larger effect sizes, compared to unpublished data. However, the purpose of the current analysis was to examine the relationship between conscientiousness and forgivingness. This relationship was not the explicit focus of any of these published studies, making it unlikely that the estimate of the relationship contains a publication bias. Moreover, this effect size estimate is robust to finding several unpublished null results. Second, this analysis did not contain enough studies to consider possible moderators of these relationships. Subsequent meta-analyses including more studies should consider the many possible moderators of these effects, e.g. type of measurement and sample demographics. For example, Brown (2003) finds that item-based measures of forgivingness have related differently with certain traits, compared to scenario-based measures of forgivingness. Future meta-analyses will help develop an understanding of when and why measurement moderates the forgivingness relationship with other personality traits.

5. Conclusion

In conclusion, prior research examining the relationships between the Big Five traits and forgivingness overlooked the relationship between conscientiousness and forgivingness. Subsequent research should narrow its focus on the particular sub-facets of conscientiousness, since theory and research predict that the relationship is most likely driven by the two sub-facets, self-control and virtue. This research will ultimately contribute to a better understanding of the forgiving personality.

References


