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Corrigendum: The Wisdom in Virtue: Pursuit of Virtue Predicts Wise Reasoning About Personal Conflicts

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In this article, results for the Pursuit of Virtue \times Conflict Type interaction in Study 2 were incorrectly reported. The final paragraph on page 1854 stated, “As in Study 1, we found a significant Pursuit of Virtue \times Conflict Type interaction, $F(1, 353) = 4.61, p = .032, \eta_p^2 = .01, 95\% \text{ CI} = [.0001, .05]$.” These results were taken from an analysis of standardized (z -scored) dependent variables, but because Study 2 involved a repeated measures design, standardization did not allow the model to account for overall changes in reasoning between the two measures. Because our reported procedure did not involve standardizing the measures, this sentence is now being corrected to read as follows:

The pattern of means was similar to that obtained in Study 1, although in this study, the Pursuit of Virtue \times Conflict Type interaction was not statistically

significant, $F(1, 353) = 3.37, p = .067, \eta_p^2 = .01, 95\% \text{ CI} = [.00, .04]$.

Because this interaction is relevant to the primary findings, the authors acknowledge that Study 2 provides converging, but not statistically significant, support for the findings in Study 1.

As a result of the same error, the reported p value for the moderation test of Hedonic motivation in the following paragraph (p. 1855) was also incorrect. The sentence reporting these results is being corrected to read: “Hedonic motivation did not moderate the effect of conflict type, $F(1, 353) < 1, p = .323$ (see the Supplemental Material for additional details).”

The error in the presentation of these results did not affect the subsequent reported results for the simple effects in Study 2 or the analysis of the subcomponents of wise reasoning. The reported results for Study 1 were not affected by this error.

The Wisdom in Virtue: Pursuit of Virtue Predicts Wise Reasoning About Personal Conflicts



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Abstract

Most people can reason relatively wisely about others' social conflicts, but often struggle to do so about their own (i.e., Solomon's paradox). We suggest that true wisdom should involve the ability to reason wisely about both others' and one's own social conflicts, and we investigated the pursuit of virtue as a construct that predicts this broader capacity for wisdom. Results across two studies support prior findings regarding Solomon's paradox: Participants ($N = 623$) more strongly endorsed wise-reasoning strategies (e.g., intellectual humility, adopting an outsider's perspective) for resolving other people's social conflicts than for resolving their own. The pursuit of virtue (e.g., pursuing personal ideals and contributing to other people) moderated this effect of conflict type. In both studies, greater endorsement of the pursuit of virtue was associated with greater endorsement of wise-reasoning strategies for one's own personal conflicts; as a result, participants who highly endorsed the pursuit of virtue endorsed wise-reasoning strategies at similar levels for resolving their own social conflicts and resolving other people's social conflicts. Implications of these results and underlying mechanisms are explored and discussed.

Keywords

wisdom, virtue, motivation, interpersonal conflicts, well-being, open data, preregistered

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Wisdom is broadly defined as the flexible and appropriate application of pragmatic reasoning to the challenges of social life (Baltes & Smith, 2008; Levenson, Jennings, Aldwin, & Shiraishi, 2005; Staudinger & Glück, 2011; for a review of definitions, see Grossmann, 2017). Philosophers have long tied this conceptualization of wisdom with virtue, proposing that wisdom and pursuing virtue are core facets of the good life (Kraut, 2016). For example, the virtue of prudence—defined by Aristotle as *recta ratio agibilium*, “right reason applied to practice” (Delany, 1911)—is also referred to as the virtue of wisdom in Western philosophy and traditional Christian theology and was ranked by St. Thomas Aquinas as the first of four cardinal virtues (Aquinas, 2012). Despite past suppositions by philosophers and psychologists that wisdom and virtue are linked, no research (to our knowledge) has offered an empirical assessment of whether pursuing virtue is a hallmark of wise character.

We propose that the litmus test for wise character is whether one can reason wisely about one's own social conflicts. As did the biblical King Solomon, people tend to reason more wisely about others' social conflicts than their own (i.e., Solomon's paradox; Grossmann & Kross, 2014, see also Mickler & Staudinger, 2008, for a discussion of personal vs. general wisdom). Personal conflicts impede wise reasoning because people are more likely to immerse themselves in their own perspective and emotions, relegating other perspectives out of awareness, and increasing certainty regarding preferred perspectives (Kross & Grossmann, 2012; McGregor, Zanna, Holmes, & Spencer, 2001). In contrast, reasoning about

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other people's conflicts facilitates wise reasoning through the adoption of different viewpoints and the avoidance of sociocognitive biases (e.g., poor recognition of one's own shortcomings—e.g., Pronin, Olivola, & Kennedy, 2008). In the present research, we investigated whether virtuous motives facilitate wisdom about one's own conflicts, enabling one to pass the litmus test for wise character.

Wisdom and Virtue

In accordance with philosophers who spoke of wisdom and virtue as inextricably linked, researchers acknowledge that virtuous motives are a central component of wisdom (e.g., Baltes & Staudinger, 2000). In the psychological literature, wisdom and virtue are often juxtaposed, with both being said to encourage greater empathy, selflessness, and compassion (Dambrun & Ricard, 2011; Le, 2011). Yet, despite the two concepts often being discussed together, little has been done to explore exactly how virtue may be related to wisdom.

Contemporary operationalizations of wisdom suggest that it comprises multiple subcomponents (e.g., intellectual humility, perspective taking, search for compromise, recognition of change; Grossmann et al., 2010). The limited research thus far suggests that virtue may be able to promote several of these subcomponents. For example, participants who expressed higher levels of virtuous motives—defined as a desire to act beyond personal interests and develop the best in oneself—were also more likely to minimize self-focus (Huta & Ryan, 2010) and expressed greater growth and insight after difficult life experiences (Bauer, McAdams, & Pals, 2008). Further, research by Kunzmann and Baltes (2003) found that wisdom-related knowledge is positively associated with the importance people place on their own personal growth and the well-being of others. These findings suggest that pursuing virtue reduces a focus on egocentric views and increases the perceived value of other individuals' unique experiences and perspectives. These outcomes reflect perspective shifting and recognizing the limits of one's own knowledge, both of which are central tenets of wise reasoning (Grossmann, Na, Varnum, Kitayama, & Nisbett, 2013). If this is true, then pursuing virtue should encourage the recognition that one's personal perspectives may not be enough to fully understand a conflict, thereby promoting wisdom about one's own conflicts as well as other people's.

Overview of the Present Research

The first purpose of the studies reported here was to attempt to replicate Solomon's paradox, that is, to demonstrate that people tend to reason more wisely about

others' conflicts than their own. The second purpose was to test our hypothesis that the pursuit of virtue promotes equally wise reasoning about one's own conflicts and other people's conflicts. The third purpose was to explore the moderating role of virtue on the relationship between conflict type and endorsement of specific subcomponents of wisdom (Grossmann et al., 2010), to provide insight into the mechanisms underlying virtue's relation to wisdom in resolving personal conflicts.

Study 1

Method

Participants. Based on effect sizes from prior research on Solomon's paradox (Grossmann & Kross, 2014) a G*Power analysis suggested a total sample size of approximately 275 participants to achieve a statistical power of .80. We aimed to obtain as large a sample as we could, while at least hitting this target, and recruited 333 undergraduate students from York University during the winter academic term of 2015. All participants completed this study for course credit. At several points, they were assessed for their attentiveness to the study. For example, participants responded to "I sometimes just clicked random responses" using a scale from 1 (*none of the time*) to 5 (*all of the time*). Those who indicated that they were inattentive "most of the time" or more were excluded from analysis. The final sample consisted of 267 participants (188 female, 74 male, 1 other, 4 with unreported gender; mean age = 21.76 years, $SD = 4.51$).

Procedure. Participants were brought into the lab as part of a larger study on personality and motivation. The measures relevant to our analyses were presented in a segment near the beginning of this larger study. Prior to the measures we report, participants were randomly assigned to an approach- or avoidance-motivation condition or to a control condition. We analyzed this manipulation's impact on our measures of interest and found that it did not significantly predict any of them, nor did it interact significantly with our manipulation (see the next paragraph), all $F_s < 1.82$ (see the Supplemental Material available online for further details on the manipulation). As this manipulation did not interact with our primary manipulation, and including it as a covariate in our analyses did not change our results, we do not discuss this manipulation further here, and we report only analyses in which it was not included.

Following the manipulation of motivational state, participants reported their pursuit of virtue. They were then randomly assigned to report on either a personal conflict they were involved in (self-conflict condition;

$n = 136$) or a conflict that a close friend was involved in (other-conflict condition; $n = 131$). Participants in the self-conflict condition were told,

Think about a close relationship (family member, friend, or romantic partner) that is currently not going very well. For example, you may be fighting a lot lately, or may not be talking as much as you used to. You are uncertain as to whether you will be able to continue to be as close to this person in the future.

Participants in the other-conflict condition were told instead,

Think about a friend's close relationship (with a family member, friend, or romantic partner) that is currently not going very well. This must be a relationship that you are not involved in. For example, your friend may be fighting a lot lately, or may not be talking as much as they used to in their relationship. Your friend is uncertain as to whether he/she will be able to continue to be as close to this person in the future.

Participants then indicated the type of relationship it was that they or their friend had a conflict in (e.g., romantic, familial, or friendship). In the self-conflict condition, 16.2% of the conflicts were with romantic partners, 37.5% were with family members, 44.1% were with friends, and 2.2% were unspecified. In the other-conflict condition, 30.5% of the conflicts were romantic partners, 30.5% were with family members, 37.4% were with friends, and 1.5% were unspecified. Following this response, participants were given 90 s to describe the specific problems and difficulties associated with the conflict they were thinking about. Next, to experientially involve participants in their conflicts, we asked them to imagine their conflicts continuing to go poorly, or perhaps getting worse, and gave them an additional 90 s to describe their thoughts and feelings about the situation. This procedure did not provide an opportunity for participants to express reasoning strategies. To assess reasoning, we utilized a wise-reasoning scale, which referred participants back to the conflicts they had reported on.

Measures. We used a modified version of the Hedonic and Eudaimonic Motives for Activities (HEMA) scale (Huta & Ryan, 2010) to assess participants' state, as opposed to trait, motives for their pursuit of virtue, as well as their hedonic motivation. Participants rated their agreement with 10 items, using a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Five of the items assessed

pursuit of virtue: (a) "I would like to pursue excellence or a personal ideal," (b) "I would like to contribute to others or the surrounding world," (c) "I would like to do what I believe in," (d) "I would like to use the best in myself," and (e) "I would like to develop a skill, learn, or gain insight into something" ($M = 4.43$, $SD = 0.55$, $\alpha = .83$). The other 5 items assessed hedonic motivation (e.g., "I would like to have fun," "I would like to take it easy"; $M = 4.34$, $SD = 0.54$, $\alpha = .75$). Because hedonic motivation and the pursuit of virtue are considered related motivational constructs (e.g., Huta & Waterman, 2014), we controlled for hedonic motivation in our analyses, to assess the predictive power of pursuing virtue above and beyond the predictive power of hedonic motivation (see the Supplemental Material for analyses of the effects of hedonic motivation, controlling for pursuit of virtue).

Drawing from prior research on wise reasoning (Grossmann & Kross, 2014; Grossmann et al., 2010; Staudinger & Glück, 2011), we assessed participants' self-reported endorsement of wise reasoning using a 19-item scale (see Table S2 in the Supplemental Material for the items, which were adapted from Brienza, Kung, Santos, Bobocel, & Grossmann, 2017). The scale was designed to include distinctive subcomponents of wise reasoning drawn from across the psychological literature, as well as to capture the overall cognitive framework of wise reasoning (Grossmann, 2017). Specifically, the scale measured endorsement of five distinctive subcomponents of wise reasoning: (a) considering other people's perspectives (e.g., "making an effort to take the other person's perspective"), (b) intellectual humility (e.g., "considering whether others' opinions might be more correct than mine"), (c) search for compromise (e.g., "considering whether a compromise is possible in resolving the situation"), (d) adopting an outsider's perspective (e.g., "trying to see the situation from the point of view of an uninvolved person"), and (e) recognition of change (e.g., "considering how the situation might change through time"). Participants reported on a scale from 1 (*very useless*) to 5 (*very useful*) how valuable each reasoning strategy would be if they were trying to resolve the conflict they had described earlier in the experimental session. To compute an overall measure of endorsement of wise reasoning, we averaged the ratings for the 19 items ($M = 3.84$, $SD = 0.67$, $\alpha = .92$). Additionally, we computed an average score for each individual subcomponent of wise reasoning to explore the effects of conflict type, pursuit of virtue, and their interaction on the endorsement of each subcomponent. (Table S3 in the Supplemental Material presents the psychometric properties of the subscales across both studies reported in this article. Table S4 in the Supplemental Material presents the results of a principal components analysis of the scale.)

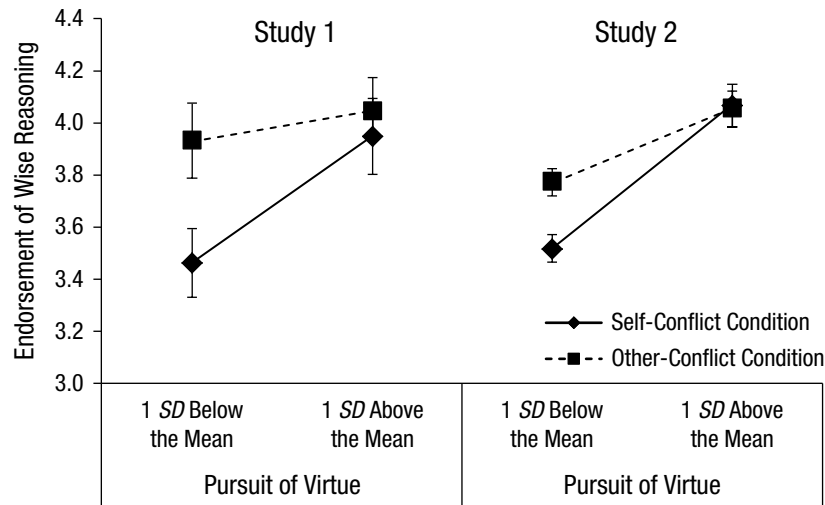


Fig. 1. Results from Studies 1 and 2: endorsement of wise reasoning in the self- and other-conflict conditions, plotted at 1 *SD* above and below the mean for pursuit of virtue. Pursuit-of-virtue scores are represented by the unstandardized residuals of pursuit of virtue regressed on hedonic motivation. Error bars represent ± 1 *SEM*.

Results

There was no gender effect and no Gender \times Conflict Type interaction effect on the endorsement of wise-reasoning strategies, F s < 1.00. As in prior research on Solomon's paradox, there was a significant main effect of conflict type. Overall, participants endorsed wise-reasoning strategies as more useful for resolving a friend's conflict ($M = 3.99$, $SD = 0.61$) than for resolving their own conflict ($M = 3.70$, $SD = 0.69$), $F(1, 264) = 13.19$, $p < .001$, $\eta_p^2 = .05$, 95% confidence interval (CI) = [.01, .11].

Pursuit of virtue. To explore whether pursuit of virtue moderated the effect of conflict type, we first controlled for hedonic motivation. Consistent with prior theorizing suggesting that pursuit of virtue and hedonic motivation are interrelated constructs (Huta & Waterman, 2014), a correlation analysis revealed that the two were significantly correlated, $r = .42$, $p < .001$. We regressed pursuit of virtue on hedonic motivation, $\beta = 0.42$, 95% CI = [0.30, 0.57], $t(265) = 7.52$, $p < .001$, and saved the unstandardized residuals as a measure of pursuit of virtue. There was a significant main effect of pursuit of virtue on the endorsement of wise-reasoning strategies, $\beta = 0.23$, 95% CI = [0.11, 0.36], $t(264) = 3.77$, $p < .001$; participants who reported greater endorsement of pursuit of virtue also reported greater endorsement of wise-reasoning strategies as conducive for resolving social conflicts. More important, we found the predicted Pursuit of Virtue \times Conflict Type interaction, $\beta = -0.14$, 95% CI = [-0.24, -0.03], $t(262) = -2.39$, $p = .018$. As depicted in the left

panel of Figure 1, we did not find an effect of pursuit of virtue in the other-conflict condition, $\beta = 0.09$, 95% CI = [-0.04, 0.22], $t(262) = 1.06$, $p = .291$. However, participants in the self-conflict condition reported wise-reasoning strategies as significantly more useful for resolving conflict as their endorsement of the pursuit of virtue increased, $\beta = 0.36$, 95% CI = [0.20, 0.54], $t(262) = 4.38$, $p < .001$. The endorsement of wise-reasoning strategies differed significantly between the two conflict conditions among participants who reported low (1 *SD* below the mean) pursuit of virtue, $\beta = 0.35$, 95% CI = [0.19, 0.50], $t(262) = 4.30$, $p < .001$, but not among those who reported high (1 *SD* above the mean) pursuit of virtue, $\beta = 0.08$, 95% CI = [-0.07, 0.23], $t(262) < 1$, $p = .365$.

To test whether the pursuit of virtue uniquely moderated the effect of conflict type on endorsement of wise reasoning, above and beyond the effect of hedonic motivation, we reran these analyses with hedonic motivation as the moderating variable, controlling for pursuit of virtue. Hedonic motivation did not moderate the effect of conflict type, $\beta = -0.01$, 95% CI = [-0.15, 0.12], $t(262) < 1.00$, $p = .892$ (see the Supplemental Material for additional details of the analysis). These results suggest that motivation for virtue, and not motivation in general, uniquely moderates Solomon's paradox.

Subcomponents of wise reasoning. To disentangle the subcomponents of wise-reasoning strategies whose endorsement was most susceptible to Solomon's paradox, as well as best predicted by pursuit of virtue and the interaction of conflict type and pursuit of virtue, we ran several follow-up analyses with the individual subcomponents

Table 1. Effects of Conflict Type on Endorsement of the Subcomponents of Wise Reasoning in Studies 1 and 2

Subcomponent of wise reasoning	Study 1				Study 2			
	Self-conflict condition	Other-conflict condition	$F(1, 264)$	η_p^2	Self-conflict condition	Other-conflict condition	$F(1, 354)$	η_p^2
Considering other people's perspectives	3.81 (0.91)	4.14 (0.81)	9.63**	.04	3.90 (0.98)	3.91 (0.96)	< 1.00	.0001
Intellectual humility	3.52 (0.92)	3.94 (0.73)	16.42***	.06	3.67 (0.98)	3.79 (0.99)	4.90*	.01
Search for compromise	3.83 (0.91)	4.11 (0.82)	6.76*	.03	3.95 (0.98)	3.93 (1.03)	< 1.00	.0001
Adopting an outsider's perspective	3.56 (1.01)	3.64 (1.03)	< 1.00	.001	3.43 (1.18)	3.56 (1.16)	6.02*	.02
Recognition of change	3.76 (0.75)	4.05 (0.73)	10.72**	.04	3.93 (0.88)	3.98 (0.85)	1.92	.005

Note: Values in parentheses are standard deviations.

* $p < .05$. ** $p < .01$. *** $p < .001$.

of our wise-reasoning scale. Table 1 presents the mean endorsement of each subcomponent in the two conditions and the results of our analysis of the effect of condition on these means. The largest effect was observed for the intellectual-humility subcomponent. Table 2 presents the results for the main effects of conflict type and pursuit of virtue, as well as their interaction effect, on endorsement of each subcomponent of wise reasoning. As shown in this table, pursuit of virtue significantly moderated the effect of conflict type on endorsement of two subcomponents of wise reasoning: considering other people's perspectives and intellectual humility. These results reveal that the moderating effect of pursuing virtue on the endorsement of wise-reasoning strategies was predominantly driven by the recognition that one's own perspective and knowledge may be insufficient for understanding one's own social conflict.

Study 2

We ran Study 2 for the purposes of trying to replicate and extend the results of Study 1. Study 2 included measures of mood and self-esteem to test whether pursuit of virtue uniquely predicts the endorsement of wise-reasoning strategies beyond the effects of these closely related constructs (Ryan, Huta, & Deci, 2013). Additionally, Study 2 utilized a repeated measures design and investigated the effect of pursuit of virtue on endorsement of wise-reasoning strategies in a sample with greater variation in age.

Method

Sample. In Study 1, the effect size (f^2) for the Pursuit of Virtue \times Conflict Type interaction was .117. Given this effect size, the G*Power program recommended a sample of 120 participants per condition to achieve a statistical

power of .80. Because a goal of this second study was to manipulate pursuit of virtue using two conditions, and given our exclusion criteria and additional repeated measures design for manipulating conflict type, we decided to recruit a sample of roughly 400 participants. We recruited 393 American participants from a crowdsourcing Web site with a diverse population (Paolacci & Chandler, 2014), and each participant was compensated \$0.75 (USD) for participating. Following our preregistered exclusion criteria, we excluded participants who failed attention-check questions or spent fewer than 7 min completing our study. Our final sample consisted of 356 participants (218 female, 136 male, 2 with unreported gender; mean age = 37.62 years, $SD = 12.89$).

Procedure. Participants were recruited online to participate in a study on motivation, meaning, and relationships. After providing consent, they reported on their motivation to pursue virtue and completed several additional exploratory measures (e.g., emotional intelligence). In an attempt to manipulate virtuous motivations, we then randomly assigned participants to one of two value-affirmation conditions (see the Supplemental Material for further details on this manipulation and the exploratory measures). The value-affirmation manipulation did not predict or interact with endorsement of wise reasoning, self-esteem, or positive and negative affect ($F_s < 1.00$), and our results did not differ depending on whether or not this manipulation was included in our models. Thus, we do not discuss it further here and report only results of models in which it was not included.

Upon completing the affirmation manipulation, participants were prompted to report on a social conflict they were involved in (self-conflict condition) and a conflict that a friend was involved in (other-conflict condition). The instructions were identical to those used in Study 1. In the self-conflict condition, 21.9% of the

Table 2. Effects of Conflict Type and Pursuit of Virtue on Endorsement of the Five Subcomponents of Wise Reasoning in Studies 1 and 2

Study and variable	β	95% CI	t^a	p
Considering other people's perspectives				
Study 1				
Conflict type	0.18	[0.07, 0.30]	3.17	.002
Pursuit of virtue	0.40	[0.24, 0.57]	4.88	< .001
Condition \times Pursuit of Virtue	-0.34	[-0.50, -0.19]	-4.10	< .001
Study 2				
Conflict type	0.01	[-0.09, 0.11]	< 1.00	.821
Pursuit of virtue	0.26	[0.16, 0.36]	5.05	< .001
Condition \times Pursuit of Virtue	-0.07	[-0.17, 0.03]	-1.33	.185
Intellectual humility				
Study 1				
Conflict type	0.24	[0.12, 0.35]	4.07	< .001
Pursuit of virtue	0.27	[0.04, 0.47]	3.27	.001
Condition \times Pursuit of Virtue	-0.20	[-0.37, -0.001]	-2.34	.020
Study 2				
Conflict type	0.12	[0.01, 0.22]	2.22	.027
Pursuit of virtue	0.21	[0.11, 0.32]	4.10	< .001
Condition \times Pursuit of Virtue	-0.11	[-0.21, -0.01]	-2.10	.037
Search for compromise				
Study 1				
Conflict type	0.16	[0.04, 0.27]	2.58	.010
Pursuit of virtue	0.25	[0.04, 0.45]	2.89	.005
Condition \times Pursuit of Virtue	-0.13	[-0.31, 0.07]	-1.48	.140
Study 2				
Conflict type	-0.01	[-0.11, 0.08]	< 1.00	.792
Pursuit of virtue	0.19	[0.09, 0.30]	3.62	< .001
Condition \times Pursuit of Virtue	-0.12	[-0.21, -0.02]	-2.37	.019
Adopting an outsider's perspective				
Study 1				
Conflict type	0.03	[-0.08, 0.15]	< 1.00	.588
Pursuit of virtue	0.21	[0.05, 0.40]	2.49	.013
Condition \times Pursuit of Virtue	0.02	[-0.16, 0.18]	< 1.00	.784
Study 2				
Conflict type	0.11	[0.02, 0.20]	2.46	.015
Pursuit of virtue	0.18	[0.08, 0.28]	3.44	.001
Condition \times Pursuit of Virtue	0.05	[-0.04, 0.14]	1.09	.278
Recognition of change				
Study 1				
Conflict type	0.19	[0.08, 0.31]	3.27	.001
Pursuit of virtue	0.26	[0.07, 0.42]	3.00	.003
Condition \times Pursuit of Virtue	-0.11	[-0.26, 0.08]	-1.24	.216
Study 2				
Conflict type	0.07	[-0.02, 0.16]	1.39	.166
Pursuit of virtue	0.20	[0.10, 0.31]	4.00	< .001
Condition \times Pursuit of Virtue	-0.09	[-0.19, 0.0001]	-1.95	.052

Note: Conflict type was dummy-coded in Study 1 (0 = self-conflict condition, 1 = other-conflict condition) and effects-coded in Study 2 (-1 = self-conflict condition, 1 = other-conflict condition), such that positive beta coefficients reflect greater endorsement of wise reasoning for friends' conflicts than for participants' own conflicts.

^a $df = 262$ for Study 1 and 353 for Study 2.

conflicts were with a romantic partner, 34.6% were with a family member, 36.2% were with a friend, and 7.3% were unspecified or ambiguous (e.g., the participant listed a name). In the other-conflict condition, 16.9% of the conflicts were with a romantic partner, 27.2% were with a family member, 44.7% were with another friend, and 11.2% were unspecified or ambiguous. All participants first reported their own conflict and then a friend's conflict. After each type of conflict, participants reported their endorsement of wise-reasoning strategies to resolve the conflict and then indicated how important the conflict felt to them on a scale from 1 (*not at all*) to 5 (*very important*). Participants then completed measures of self-esteem and their current mood.

Measures. As in Study 1, participants completed a modified version of the HEMA scale, which included five statements assessing their state-level pursuit of virtue ($M = 4.18$, $SD = 0.70$, $\alpha = .88$) and five statements assessing their state-level hedonic motivation ($M = 4.07$, $SD = 0.72$, $\alpha = .87$).

Participants also completed the same 19-item wise-reasoning scale as in Study 1; in this study, however, each participant completed this scale twice, once for his or her own conflict and once for a friend's conflict. An overall average wise-reasoning score was computed for both the participant's own conflict ($\alpha = .94$) and the friend's conflict ($\alpha = .96$). Endorsement of wise-reasoning strategies was highly correlated between the two conditions, $r = .65$, $p < .001$. As in Study 1, we also computed a score for each of the five subcomponents of wise reasoning, separately for the two conditions.

We also included measures of mood and self-esteem. Participants completed the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965), using a rating scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to report their evaluations of themselves (e.g., "As a whole, I am satisfied with myself"; $M = 3.84$, $SD = 0.84$). Interitem reliability was high ($\alpha = .92$), so we computed a mean score for self-esteem by averaging the ratings.

We assessed participants' state affect using the 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Participants reported on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) how they currently felt, responding to 10 positive-affect items (e.g., "excited," "enthusiastic," "proud"; $M = 3.26$, $SD = 0.80$, $\alpha = .89$) and 10 negative-affect items (e.g., "upset," "irritable," "hostile"; $M = 1.93$, $SD = 0.81$, $\alpha = .91$). Average scores were computed separately for positive and negative affect.

Results

A repeated measures analysis of variance, with conflict type as the repeated measures variable, revealed that participants' own conflicts felt more important to them

($M = 3.83$, $SD = 1.12$) than their friends' conflicts ($M = 3.70$, $SD = 1.08$), $F(1, 354) = 4.32$, $p = .038$, $\eta_p^2 = .01$, 95% CI = [.0001, .05]. Importance of the conflict did not interact with pursuit of virtue to predict the endorsement of wise reasoning, $F(1, 354) < 1.00$, $p = .442$. A main effect of gender emerged. Across the two conflict types, women endorsed wise-reasoning strategies as more useful than men did, $F(1, 351) = 4.76$, $p = .030$, $\eta_p^2 = .01$, 95% CI = [.0001, .05]. We had not predicted this effect and do not discuss it further here, but additional results involving gender are presented in the Supplemental Material. Results for conflict type converged with those from Study 1 and prior research on Solomon's paradox; we found a marginal effect of conflict type on the endorsement of wise reasoning, $F(1, 353) = 2.74$, $p = .099$, $\eta_p^2 = .01$, 95% CI = [.0001, .04]. Participants endorsed wise reasoning as more conducive to resolving other people's conflicts ($M = 3.85$, $SD = 0.84$) than to resolving their own conflicts ($M = 3.79$, $SD = 0.81$). As shown in Table 1, greater endorsement of intellectual humility and adoption of an outsider's perspective in the other-conflict condition than in the self-conflict condition drove these overall results.

Pursuit of virtue. Following the same procedures as in Study 1, we examined whether pursuit of virtue moderated conflict type by first controlling for hedonic motivation. Pursuit of virtue and hedonic motivation were significantly correlated, $r = .41$, $p < .001$. We regressed pursuit of virtue on hedonic motivation, $\beta = 0.41$, 95% CI = [0.28, 0.60], $t(353) = 8.53$, $p < .001$, and saved the unstandardized residuals as a measure of pursuit of virtue. There was a significant main effect of pursuit of virtue on the endorsement of wise-reasoning strategies, averaged across both the two conflict types, $F(1, 353) = 41.07$, $p < .001$, $\eta_p^2 = .10$, 95% CI = [.05, .17]; participants who endorsed greater pursuit of virtue tended to see wise reasoning as more useful in resolving social conflicts. The pattern of means was similar to that obtained in Study 1, although in this study, the Pursuit of Virtue \times Conflict Type interaction was not statistically significant, $F(1, 353) = 3.37$, $p = .067$, $\eta_p^2 = .01$, 95% CI = [.00, .04]. As depicted in the right panel of Figure 1, greater pursuit of virtue significantly predicted greater endorsement of wise-reasoning strategies in both the other-conflict condition, $F(1, 353) = 22.64$, $p < .001$, $\eta_p^2 = .06$, 95% CI = [.02, .11], and the self-conflict condition, $F(1, 353) = 46.29$, $p < .001$, $\eta_p^2 = .12$, 95% CI = [.06, .18]. Among participants high in pursuit of virtue (1 SD above the mean), endorsement of wise-reasoning strategies did not differ between the two conditions, $F(1, 353) < 1$, $p = .900$, whereas among participants low in pursuit of virtue (1 SD below the mean), endorsement of wise-reasoning strategies was greater in the other-conflict condition than in the self-conflict condition, $F(1, 353) = 6.09$, $p = .014$, $\eta_p^2 = .02$, 95% CI = [.006, .05].

As in Study 1, we reran these analyses with hedonic motivation as the moderating variable, controlling for pursuit of virtue. Hedonic motivation did not moderate the effect of conflict type, $F(1, 353) < 1$, $p = .323$ (see the Supplemental Material for additional details). This result suggests that motivation for virtue, and not motivation in general, uniquely moderates Solomon's paradox.

Self-esteem and mood. Positive affect was significantly and positively related to pursuit of virtue, $r = .25$, $p < .001$. Positive affect also significantly predicted the endorsement of wise-reasoning strategies, $F(1, 353) = 14.77$, $p < .001$, $\eta_p^2 = .04$, 95% CI = [.009, .09]. Greater positive affect was associated with greater endorsement of wise reasoning, both for participants' own conflicts, $\beta = 0.18$, 95% CI = [0.05, 0.32], $t(353) = 3.49$, $p = .001$, and for their friends' conflicts, $\beta = 0.18$, 95% CI = [0.05, 0.32], $t(353) = 3.46$, $p = .001$. Negative affect and self-esteem were not significantly related to pursuit of virtue, $|rs| < .08$, $ps > .147$, and neither predicted the endorsement of wise-reasoning strategies, $Fs < 1$, $ps > .252$. Positive affect, negative affect, and self-esteem did not interact with conflict type to predict the endorsement of wise-reasoning strategies, $Fs < 1.31$, $ps > .252$. Additionally, they did not significantly moderate the Pursuit of Virtue \times Conflict Type interaction, $Fs < 2.25$, $ps > .107$.

Subcomponents of wise reasoning. As shown in Table 1, follow-up analyses with the individual subcomponents of wise reasoning revealed that the main effect of conflict type was strongest for intellectual humility and adopting an outsider's perspective. Conflict type did not have a significant effect on the endorsement of wise-reasoning strategies included in the other subcomponents. Table 2 presents the results for the main effects of conflict type and pursuit of virtue, as well as their interaction effect, on each of the subcomponents of wise reasoning. Pursuit of virtue significantly moderated the effect of conflict type on endorsement of the search for compromise and intellectual humility.

Discussion

The present studies are, to our knowledge, the first that empirically link the psychological construct of virtue with wisdom. Consistent with past research on Solomon's paradox, our results indicate that individuals endorse wise-reasoning strategies as more useful for resolving other people's social conflicts than for resolving their own conflicts. However, our work advances this prior finding in two ways. First, we found that people who highly endorse the pursuit of virtue endorse

wise-reasoning strategies as equally useful for their own and for other people's conflicts. Second, we found evidence that pursuing virtue may be most beneficial to specific subcomponents of wise reasoning during attempts to resolve personal conflicts.

Although wisdom is operationalized as a multidimensional construct, it is often treated as a singular construct (e.g., Grossmann et al., 2010). Assessing the individual subcomponents of wise reasoning allowed us to look more closely at the relationship between wisdom and virtue. Although pursuit of virtue moderated the effect of conflict type on endorsement of several subcomponents of wise reasoning in one study or the other, moderation by the perceived value of intellectual humility—that is, the value of recognizing that one's own perspective alone may be insufficient to understand one's social conflict—was consistent across both studies. This finding is consistent with prior research on virtue, which suggests that virtue is a mode of self-transcendence that allows people to see through the "illusions of one's truth" (Le, 2011, p. 173).

Our studies open up avenues for researching ways to enhance wisdom. Although some research in this area has been conducted (e.g., Kross & Grossmann, 2012), these studies have predominately relied on situation-dependent self-distancing techniques that may feel unconventional for certain groups (e.g., some cultural groups; Grossmann & Kross, 2010). The pursuit of virtue may have wider implications than self-distancing because it involves a person's broader goals and motivation. Although we acknowledge that, given the correlational nature of our design, our results should not be used to argue that virtuous motives foster wise reasoning, our research suggests that virtue may be a unique and fruitful construct for future researchers to investigate in seeking ways to enhance wisdom.

Action Editor

Eddie Harmon-Jones served as action editor for this article.

Author Contributions

A. C. Huynh, H. Oakes, and I. McGregor contributed to the research concept, designed the studies, and interpreted the findings. A. C. Huynh performed the data analysis and drafted the manuscript. H. Oakes and I. McGregor provided revisions to the drafts. G. R. Shay organized the data and assisted with drafting the manuscript. All the authors approved the final version of the manuscript for submission.

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The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Supplemental Material

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Open Practices



All data have been made publicly available via the Open Science Framework and can be accessed at <https://osf.io/4chuy/>. The design and analysis plan for Study 2 was preregistered at the Open Science Framework and can be accessed at <https://osf.io/jmw3p>. The complete Open Practices Disclosure for this article can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797617722621>. This article has received badges for Open Data and Preregistration. More information about the Open Practices badges can be found at <http://www.psychologicalscience.org/publications/badges>.

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