The Motivation To Empathize Scale:
Indexing Virtuous and Nonvirtuous Motivations to Empathize with Another

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Abstract

While recent conceptualizations of empathy have highlighted its motivated nature (eg. (Keysers & Gazzola, 2014; Zaki, 2014) little work has yet explored the specific motivations that influence one's propensity to empathize. Commonly-used self-report metrics of empathy include items that lean heavily, if not entirely, towards 'virtuous' motives (e.g. concern, sympathy, caring, helping), and empathy has been explicitly linked to these motivations in many writings. However, the definition of empathy is silent to its virtuosity; and while rarely indexed, several less virtuous motivations for empathy can be readily identified: to influence, to manage, to mediate, to manipulate. Towards a more thorough investigation of the various motives underlying empathy, the present paper introduces the *Motivation to Empathize* scale, which was specifically designed to parse one's propensity to consider the feelings of another into both *virtuous* (e.g. caring/compassionate/loving) and *nonvirtuous* (e.g. selfish, manipulative, sinister) motives. The paper outlines initial steps taken towards scale development and item reduction, and provides preliminary evidence of scale reliability and construct validity. Specifically, factor analytic techniques separated empathic motivations into two (high-alpha) factors, with all virtuous motives loading on latent factor one, and all nonvirtuous motives loading on latent factor two. Thus, virtuous and nonvirtuous motives to empathize appear to constitute distinct, and statistically separable, measures of the propensity to empathize. Virtuous, but not non-virtuous motives, correlated with the empathic concern subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980), and each motivation type showed distinct relationships with the Compassion and Politeness aspects of Agreeableness (ie. big-five personality traits). In total, these results suggest that both virtuous and nonvirtuous motives may predict the manifestation of empathy, and that future work would do well to consider these varied motivations when considering the nature of the empathic construct.

Introduction

The sharing of another's emotions has historically been conceptualized as an automatic emotional process, required for mutual understanding, compassion, and cooperation (e.g. (Eisenberg & Fabes, 1990; Preston & de Waal, 2002)). Within this vein, individual differences in empathy are viewed as being outside the empathizer's control - those who demonstrate high empathy are described as having a "high capacity" for emotion sharing (see (Zaki, 2014)); those who demonstrate low empathy are viewed as lacking this social skill (these latter individuals include those with either autistic (Baron-Cohen & Wheelwright, 2004) or antisocial (Miller & Eisenberg, 1988) characteristics).

While seemingly intuitive, an accrual of evidence suggests that this capacity framework may be insufficient. First, considerable research has demonstrated that empathy varies reliably with contextual features of the situation (e.g. if the empathizer has recently experienced pain; (Preis, Schmidt-Samoa, Dechent, & Kroener-Herwig, 2013)), and with individual features of the target (e.g. if the target of empathy is an ingroup or outgroup member (M. Cikara, Bruneau, Van Bavel, & Saxe, 2014)). Moreover, meta-analytic evidence suggests that individual differences in empathy may only manifest when subjects are aware that their empathy is being evaluated (Ickes, Gesn, & Graham, 2000). These findings, among others within the broader literature (e.g. (Cialdini et al., 1987; Pavey, Greitemeyer, & Sparks, 2012)), have been difficult for capacity models to reconcile, and as such, have led to several recent attempts to reconceptualize the construct. Particularly influential has been Keysers and Gazzola's (2014) suggestion that one need consider both the ability and propensity to empathize. According to their view, variations in empathy may occur not only as a result of differences in capacity, but also of differences in motivation. In similar veins, Cameron, Inzlicht & Cunningham (2015) have suggested that empathy may best be conceptualized as a *choice*, while Zaki (2014; see also (Weisz & Zaki, 2018)) has explicitly argued for construing empathy as a *motivation*, wherein it may drive rather than result in interpersonal understanding. Together, these propensity-based conceptualizations of empathy have begun providing

an increasingly coherent framework for understanding when and why one may consider the feelings of another.

These new conceptualizations also raise new questions, however. Perhaps most directly: What are the specific motivations that influence the propensity to empathize? Is there a single motivation, or many? Are some motivations more potent elicitors of empathy than others? Given that empathy has only recently gained formal status as a motivational construct, little if any work has been conducted to directly evaluate these questions. That said, it requires only a cursory review of the extant literature to realize that empathy has primarily been linked to what I refer to here as *virtuous motives*; for example: concern, sympathy, caring, helping (e.g. (Eisenberg & Miller, 1987; Hoffman, 1985; Roberts & Strayer, 1996; Zaki, 2014)). Some writers have made this link explicit by connecting empathy to virtuous concepts such as morality, virtue and human goodness (e.g. (Pinker, 2011; Prinz, 2011)). In other cases, the link has been more implicit; for instance, in the specific item content of popular empathy questionnaires, which tend to be heavily weighted towards issues of concern, sympathy and caring. For example, the empathic concern subscale of the Interpersonal Reactivity Index (IRI; (Davis, 1983) is composed of seven items that include “I often have tender, concerned feelings for people less fortunate than me.” and “When I see someone being taken advantage of, I feel kind of protective towards them”. Similarly, the Toronto Empathy Questionnaire (TEQ; (Spreng, McKinnon, Mar, & Levine, 2009) is dominated by items targeting virtuous motives, including “I get a strong urge to help when I see someone who is upset” and “Other people’s misfortunes do not disturb me a great deal.” (reverse-coded).

Certainly empathy *can* occur through manifestation of virtuous motives; however, it is important to note that the definition of empathy – the sharing of another’s emotions – does not actually imply such virtuosity (see (Battaly, 2011)). Moreover, one could conceive of several less virtuous reasons for wanting to share the feelings of another: to influence, to manage, to mediate, to manipulate (see (Bloom, 2017a; Breithaupt, 2018; Bubandt & Willerslev, 2015)). Traditional metrics of empathy (e.g. the

IRI/TEQ) have not generally queried these *non-virtuous motives*, and thus little research has focused on delineating them. Nonetheless, preliminary support for their existence can be found in surrounding literatures. For instance, empathy has been shown to invoke anger (e.g. (Kuppens & Tuerlinckx, 2007), to increase punishment intentions ((Vitaglione & Barnett, 2003), and to promote aggressive intentions towards outgroup members (Bloom, 2017b; Eisenberg, Eggum, & Di Giunta, 2010). Bagozzi et al. ((Bagozzi et al., 2013)) has demonstrated increased empathy in account managers with higher Machiavellian traits, and work by Book and colleagues (Book, Costello, & Camilleri, 2013; Wheeler, Book, & Costello, 2009) have suggested that psychopathic individuals may hold unique insight into the vulnerabilities of others. Perhaps most directly, work from our lab has demonstrated that individuals with antisocial characteristics will show increased neural response when processing others' emotions if they are instructed to do so (Arbuckle & Shane, 2016), or if doing so may be in their best interests (Groat & Shane, 2020).

While admittedly sparse, this work converges in providing preliminary support for the notion that empathy can at times manifest for reasons not inherently virtuous (Bloom, 2017b; Eisenberg et al., 2010). However, because traditional empathy scales have been heavily dominated by items that imply virtuous motives, quantification of the influence of other motives to empathize has rarely been considered and/or has been difficult to achieve. To fill this gap, the present paper introduces a new scale – the Motivation to Empathize (MtE) scale – which was created to quantify the extent to which empathy manifests as a result of either virtuous or non-virtuous motives. To this end, the scale requires participants to rate, on 7-point likert-style scales, the extent to which they would care to know what a variety of target individuals (e.g. their mother, their father, a distant friend, various strangers) are feeling for a variety of different reason. Three of these reasons constitute *virtuous motives*: to increase their well-being; to protect them; to reduce their pain. The other three reasons constitute nonvirtuous motives: to influence them; to get information from them; to manipulate them. In this way, a more precise quantification of the specific motives underlying the manifestation of empathy can be obtained, within

the context of known mediators of empathy including social distance, social closeness, etc). It should be noted that the goal of this first iteration of the scale is not intended to be comprehensive of *all potential motivations* to empathize, but rather to precisely quantify the magnitude of virtuous/nonvirtuous motives, and to introduce a general framework through which other motivations underlying empathy could be queried.

Below we provide preliminary data on the internal reliability and convergent validity of the scale (compared to the IRI and the Big-five Aspects Scale), and report on initial relationships between virtuous and nonvirtuous motives, target type and social closeness. The relationship between virtuous/nonvirtuous motives, and the implications of this relationship for consideration of the broader empathic construct, are provided subsequent dialogue.

Method

Participants

A total of 281 participants over the age of 18 were recruited from Mechanical Turk to participate in a study on empathy and personality. Given the well-known quality control issues inherent within MTurk samples, rigorous quality control measures were undertaken following guidance from various recent sources (e.g. (Wessling, Huber, & Netzer, 2017)). Specifically, the study was restricted to participants from 22 countries (throughout North America, Europe and Australia, as verified by their IP address) who had not participated in any of our prior tasks, and who had an approval rating of at least 99%. Despite the location restrictions, 15 respondents were linked to IP addresses outside our requested 22 countries, and 12 respondents were linked to IP addresses that included features flagged as likely fraudulent (Ryan, 2019). These participants were excluded. In addition, participants were required to pass several straightforward manipulation checks involving a two-step indication of their a) first/second language proficiency, and b) their mother's/father's education/employment. Participants who provided inconsistent answers on two of the three manipulation checks ($n = 72!$) were also removed, leaving a

total of 175 (103 female; mean age 40.35) validated, high-quality MTurk participants in the final dataset. These validated participants were compensated ~\$3.00 CAD for completion of the study materials.

Measures

Motivation to Empathize Scale (MtE). The MtE scale (see Appendix 1) was developed with the goal of quantifying the strength of virtuous and non-virtuous motivations influencing the propensity to consider the feelings of another. On the y-axis, 45 different potential targets of empathy were listed. These were developed to incorporate a wide range of close/distant and positive/negative relationships (with the expectation of a more focused list following scale reduction/validation procedures; see below), and included family/friends (e.g. mother, father, best friend, distant friend), professional/periodic acquaintances (e.g. doctor, teacher, teammate, bus driver), strangers (e.g. beggar, child crying, thief), well-known figures (e.g. Oprah, Trump), and hypothetical targets of various forms (e.g. someone you respect, someone you hate). On the x-axis, six different potential motives (three virtuous / three nonvirtuous) for experiencing empathy were listed, as follows:

Virtuous motives were:

- ... because I may be able to manipulate them to get my way
- ... because it's wise to get information that you can use against people later on
- ... because of what I can get for them

Nonvirtuous motives were:

- ... because I have tender concerned feelings for them
- ... because I want to protect them
- ... because it affects me greatly to see them in pain

Thus, for each target, participants were asked to indicate (on 7-point likert-style scales) the extent to which they “would care to know” what each of the 45 targets were feeling for each of the six listed motivations. Participants were also asked to provide closeness ratings for each target, to afford consideration of social closeness as a mediating factor. For each target category, participants were asked

to think of one specific person for each target category; for instance, if a participant had two brothers, they were asked to choose one brother to focus on, and to complete all motivation/closeness ratings with this one target in mind. Alternately, if an option did not apply (e.g. they did not have a brother), they were instructed to skip that target category.

Additional Measures for Construct Validity

Interpersonal Reactivity Index (IRI; Davis, 1980). Participants completed both the empathic concern and perspective-taking subscales of the IRI, one of the most commonly used survey measures for evaluating empathy/perspective-taking. Each subscale is comprised of seven likert-style items including “I often have tender concerned feelings for people less fortunate than me” (empathy) and “I sometimes try to understand my friends better by imagining how things look from their perspective” (perspective-taking). The scale has undergone rigorous validation (e.g. (Davis, 1983), and shows high reliability and validity (e.g. (Carey, Fox, & Spraggins, 1988; Hawk et al., 2013).

Big Five Aspect Scales (BFAS; DeYoung, Quilty, & Peterson, 2007). The BFAS is an empirically validated instrument for measuring the broad Big Five dimensions of personality, as well as the ten lower-level aspects (*extraversion*: assertiveness/enthusiasm; *neuroticism*: volatility/withdrawal; *conscientiousness*: industriousness/orderliness; *agreeableness*: compassion/politeness; *openness*: openness/intellect. Respondents are presented with 100 descriptors (e.g., “Sympathize with others’ feelings”; “Like to solve complex problems”) and must indicate on a 5-point likert-style scale the extent to which each descriptor accurately describes themselves. The BFAS has been validated against standard Big Five instruments (e.g. BFI, NEO PI-R), and shows high internal and test-retest reliability.

Procedure

All recruitment occurred via Mechanical Turk, with participants forwarded to Ontario Tech University’s Qualtrics portal for completion of all study measures. Informed consent was obtained through a digital consent process, followed by completion of the MtE, IRI and BFAS, within a larger battery of experimental measures. Following completion, research staff had three days to validate

participant responses (ie. IP addresses, manipulation checks), after which validated participants received payment through Mechanical Turk.

Results

Preliminary Scale Validation Strategies: Calculating Missing Data and Target Variance

Missing Data. The number of missing data points associated with each target was calculated to identify any targets that elicited suboptimal response rates from participants (for instance, if many participants didn't have a brother). This process identified four targets that had missing data from more than 10 participants: brother, sister, niece, nephew. To rectify this issue, brother/sister was subsequently combined into a single 'sibling' category, and niece/nephew into a single 'niece/nephew' category. Missing data associated with these combined target categories was reduced to 2-3 and 6-8, respectively, and so all relevant analyses below made use of these combined target categories. Remaining missing values (for all variables) were handled via mean-replacement.

Evaluation of Target Variance. In addition, the standard deviations of the empathic motivations associated with each target were visually inspected. This was done to ensure that no targets (e.g. mother, psychopath) elicited such consistently high (or low) empathic motivations so as to negate their empiric utility. All standard deviations appeared acceptable for a 1-to-7 likert-style scale, ranging from 1.234 (nonvirtuous motives targeted towards someone crying on the street) to 2.353 (nonvirtuous motives targeted towards someone who hurt your mother). Thus, no targets were removed for insufficient variance.

Validation of Virtuous/Nonvirtuous Motive Categories

Exploratory Factor Analysis. Principal axis factorization (varimax rotation; Kaiser normalization) was conducted to evaluate the factor structure of the six queried motivations. This analysis resulted in a two-factor solution, with all virtuous motives (care, protect, affects me) loading on the first latent factor, and all nonvirtuous motives (manipulate, use them, get something from them) loading on the second latent factor. Subsequent reliability analyses indicated that both factors showed

high Cronbach's alpha (virtuous factor: alpha = .951; nonvirtuous factor: alpha = .967), which was not significantly improved by exclusion of any items from either factor. Inter-item correlations were consistently high (all $r_s > .850$, $p < .05$), while correlations with items from the opposite factor were consistently low (all $r_s < .142$, $p > .05$). The low cross-factor correlations are particularly noteworthy, as they not only contribute to scale validation, but also demonstrate that participants' levels of virtuous/non-virtuous motives constituted largely independent constructs. Specific factor loadings are presented in Table 1.

Table 1

Factor analysis of the six motivation items

Motivations	Factors	
	1	2
Concern	.917	-.017
Protect	.936	.087
Affects Me	.940	.075
Manipulate	.059	.948
Information	.029	.982
Gain	.057	.927

Validation of Target Types

Exploratory Factor Analysis. Two additional exploratory factor analyses (one for virtuous motives, one for nonvirtuous motives) focused on the 43 remaining targets (after combining brother/sister and niece/nephew), to facilitate reduction of target items through identification of target-related latent factors. Given validation of the virtuous/nonvirtuous factors above, mean virtuous and nonvirtuous motive scores were calculated for each target and all subsequent target type validation analyses were undertaken on these mean factor scores. Each is described in turn below.

Virtuous Motives. Principal axis factorization identified four components with eigenvalues > 1 ; however, upon visual inspection of the scree plot and sum of square loadings, only the first three factors demonstrated clear visual distinction between components. As such, the factorization model was rerun to impose a three-factor solution, which accounted for 67.79% of the total variance in virtuous motivations. Inspection of the rotated factor loadings (see Table 2) suggested a factor structure largely consistent with *a priori* expectations. The first factor (referred to as ‘Virtuous1’ or ‘V1’) was composed primarily of neutrally-valent strangers, and included targets such as teacher, bus driver, doctor, janitor, grocery clerk, restaurant server and someone crying on the street. The second factor (V2) was composed primarily of negatively-valent strangers, and included targets such as: someone you hate, someone that hurt your mom, thief, bully and rapist. The third factor (V3) was composed primarily of family members and close friends, and included targets such as mother, father, sibling, grandparent, aunt, uncle, cousin and best friend. Several targets (e.g. distant friend, coworker, teammate, someone you respect) loaded equally on multiple factors; two targets (child having a tantrum, Trump) did not load clearly on any factor.

Table 2. *Factor loadings of targets, virtuous motives*

Targets	Factors		
	1	2	3
Mother	.159	-.133	.811
Father	.121	-.057	.635
Sibling	.231	-.101	.788
Best Friend	.284	-.159	.721
Distant Friend	.552	.157	.465
Grandparent	.200	-.078	.842
Aunt	.278	.049	.794
Uncle	.258	.093	.832
Cousin	.318	.082	.813
Niece/Nephew	.238	-.043	.829
Teacher	.701	.186	.401
Bus Driver	.807	.367	.183
Coworker	.650	.105	.475
Beggar	.644	.326	.214
Doctor	.715	.265	.278
Janitor	.795	.275	.188
Boss	.635	.278	.325
Grocery Clerk	.805	.330	.221
Fellow Student	.754	.195	.380
Teammate	.626	.093	.488
Bus Passenger	.802	.337	.257
Someone You're Jealous Of	.462	.687	.058
Someone You Dislike	.426	.754	.064
Someone You Respect	.639	.000	.461
Someone You Hate	.164	.866	.016
Someone Who Took Advantage of You	.220	.902	.020
Someone Rude to You	.396	.809	-.027
Opponent	.577	.434	.136
Bully	.285	.816	-.037
Hitler	.029	.754	-.052
Someone Who Hurt Your Mom	.155	.867	-.126
Grumpy Customer	.629	.565	.126
Someone Who Won't Pay You Back	.392	.714	.071
Arrogant Businessman	.423	.750	.009
Psychopath	.218	.768	-.033
Thief	.216	.870	-.016
Burglar	.235	.830	-.025
Rapist	.044	.852	-.130
Restaurant Server	.755	.338	.281
Oprah	.589	.383	.182
Trump	.310	.342	.104
Bill Gates	.624	.397	.125
Child Having a Tantrum	.464	.189	.389
Someone Crying on the Street	.720	.178	.359

Nonvirtuous Motives. Principal axis factorization identified four components with eigenvalues > 1; however, upon visual inspection of the scree plot and sum of square loadings only the first three factors demonstrated clear visual distinction between components. As such, the factorization model was rerun to impose a three-factor solution, which accounted for 71.68% of the total variance in nonvirtuous motivations. Inspection of the rotated factor loadings (see Table 3) again suggested a factor structure largely consistent with *a priori* expectations. The first factor (NV1) was composed primarily of family members (e.g. mother, father, sibling, grandparent, best friend), as well as several neutrally-valent strangers (e.g. bus driver, janitor, grocery clerk, fellow student, someone you respect). The second factor (NV2) was composed of negatively-valent strangers such as: someone you are jealous of, someone you dislike, bully, arrogant businessperson, and psychopath. The third factor (NV3) only accounted for 4.34% of the total variance and included no targets that loaded highest on this factor. Those that showed partial loading on NV3 included teacher, coworker, boss, teammate, someone you dislike, Hitler (negatively), and rapist (negatively).

Table 3. *Factor loadings of targets, nonvirtuous motives*

Targets	Factors		
	1	2	3
Mother	.803	-.017	.028
Father	.706	.134	.100
Sibling	.866	.052	.099
Best Friend	.887	.083	.092
Distant Friend	.881	.206	.018
Grandparent	.888	.077	.062
Aunt	.898	.069	.160
Uncle	.885	.090	.096
Cousin	.892	.144	.100
Niece/Nephew	.924	.040	-.061
Teacher	.689	.352	.425
Bus Driver	.825	.267	-.040
Coworker	.741	.334	.407
Beggar	.700	.297	-.204
Doctor	.775	.301	.239
Janitor	.838	.237	-.145
Boss	.544	.487	.419
Grocery Clerk	.829	.331	.011
Fellow Student	.812	.269	.254
Teammate	.758	.293	.340
Bus Passenger	.776	.321	-.150
Someone You're Jealous Of	.389	.680	.226
Someone You Dislike	.256	.770	.322
Someone You Respect	.832	.139	.162
Someone You Hate	.225	.751	.296
Someone Who Took Advantage of You	.079	.823	.183
Someone Rude to You	.257	.756	.197
Opponent	.362	.547	.191
Bully	.182	.803	.152
Hitler	.064	.764	-.292
Someone Who Hurt Your Mom	.029	.828	-.069
Grumpy Customer	.484	.640	.069
Someone Who Won't Pay You Back	.091	.825	.250
Arrogant Businessman	.245	.795	.199
Psychopath	.128	.794	-.187
Thief	.049	.846	-.095
Burglar	.157	.745	-.236
Rapist	.073	.783	-.368
Restaurant Server	.798	.343	.054
Oprah	.608	.418	.188
Trump	.340	.571	.068
Bill Gates	.581	.405	.238
Child Having a Tantrum	.592	.481	.015
Someone Crying on the Street	.874	.222	-.221

Item Reduction Analyses

The full list of targets was intentionally broad to encourage evaluation of a wide variety of interpersonal relationships. While preliminary analyses above appear to support the validity and independence of the virtuous and nonvirtuous motivation constructs, the target items were expected to benefit from item reduction analyses to increase parsimony and internal consistency of the target lists. This was accomplished through inspection of the inter-item and adjusted total-item correlation coefficients for each target's virtuous and nonvirtuous motivations.

Inter-item and total-item correlation coefficients. Inter-item correlations examine the extent to which variance in scores from one item (ie. one target) are empirically similar to variance in scores from another item, and can thus identify overlapping or redundant target items. Guided by the factor analytic results above, inter-item correlations were examined for all targets that loaded on the same target factor. This was undertaken in parallel for both virtuous and nonvirtuous motivations, with the goal of identifying targets that showed highly-correlated responses across both motivation types. In contrast, targets that showed highly-correlated responses on only one motivation type may be interpreted as holding potentially valuable non-redundant information. Tables 4-6 present these interitem correlations, categorized by factor loadings, with targets that exhibited both virtuous and nonvirtuous interitem correlations $> .700$ highlighted as candidates for removal. As can be seen, many targets showed interitem coefficients at this level, suggesting that considerable paring of target items could be undertaken without losing substantive reliability or validity. Removal of specific targets involved a careful consideration of the entire inter-item matrix, as well as each target's total-item correlation coefficient. In total, 22 items were identified as candidates for removal due to redundancy, including five targets loading on the family/friend factor (sibling, grandparent, aunt, uncle, nephew), nine targets loading on the positive/neutral acquaintance/stranger target (bus driver, coworker, janitor, grocery clerk, fellow student, bus passenger, someone you respect, Oprah, person crying on street), and eight targets loading on the negative acquaintance/stranger target (someone you dislike, someone who took

advantage of you, someone rude to you, someone who hurt your mom, someone who won't pay you back, arrogant businessman, burglar, rapist). This resulted in a pared down list of 21 targets.

Table 4.

Interitem correlation matrix – Factor 1 (Family/Friends)

	Mother	Father	<i>Sibling</i>	Best Friend	Distant Friend	<i>Grand Parents</i>	<i>Aunt</i>	<i>Uncle</i>	Cousin
Mother									
Father	.592/.730								
<i>Sibling</i>	.793/.910	.563/.716							
Best Friend	.689/.796	.506/.704	.696/.858						
Distant Friend	.375/.721	.326/.652	.444/.765	.528/.859					
<i>Grandparents</i>	.785/.784	.582/.715	.731/.825	.668/.824	.436/.819				
<i>Aunt</i>	.677/.807	.491/.710	.624/.863	.588/.835	.588/.815	.715/.868			
<i>Uncle</i>	.640/.764	.584/.693	.688/.795	.603/.805	.603/.802	.735/.816	.799/.883		
Cousin	.631/.751	.547/.700	.637/.810	.664/.816	.664/.835	.702/.831	.807/.890	.829/.890	
<i>Niece/Nephew</i>	.706/.794	.498/.681	.736/.823	.647/.848	.647/.806	.782/.857	.754/.822	.740/.831	.774/.841

The first inter-item correlation within each pair corresponds to virtuous motives, the second to nonvirtuous motives. Inter-item correlations where both the virtuous and nonvirtuous coefficients > .700 are highlighted in yellow as candidates for removal due to redundancy. Not all candidates were removed, as only one target from a highly-correlated pair needed removal. Those targets included in italicized font were ultimately removed.

Table 5.

Interitem correlation matrix – Factor 2 (Positive/Neutral Acquaintances/Strangers)

	Teacher	Bus Driver	Coworker	Beggar	Doctor	Janitor	Boss	Grocery Clerk	Fellow Student
Teacher									
Bus Driver	.707 /.647								
Coworker	.679/ .812	.605/.689							
Beggar	.611/.476	.702 /.715	.523/.513						
Doctor	.708 /.777	.736 /.772	.598/ .801	.519/.543					
Janitor	.724 /.595	.834 /.831	.562/.623	.662/ .755	.724 /.679				
Boss	.695/ .766	.669/.552	.622/ .808	.525/.424	.634/.692	.631/.511			
Grocery Clerk	.689/.695	.845 /.839	.594/ .736	.697/.692	.699/ .815	.837 /.804	.653/.610		
Fellow Student	.760 /.761	.714 /.766	.738 /.845	.589/.578	.754 /.810	.734 /.726	.687/.697	.735 /.758	
Teammate	.661/ .796	.573/.690	.804 /.832	.496/.518	.599/ .762	.553/.670	.607/.699	.620/ .731	.710 /.817
Bus Passenger	.706 /.587	.868 /.763	.678/.639	.683/ .726	.705 /.647	.777 /.800	.674/.533	.878 /.846	.743 /.681
Respect	.636/ .717	.576/.699	.696/ .742	.481/.633	.603/.672	.603/ .757	.538/.592	.588/ .741	.665/ .772
Opponent	.525/.502	.580/.374	.505/.562	.505/.312	.619/.492	.641/.382	.589/.508	.682/.504	.623/.467
Grumpy Customer	.546/.566	.772 /.634	.502/.590	.692/.583	.603/.621	.683/.553	.560/.585	.730 /.666	.575/.575
Restaurant Server	.634/.693	.797 /.814	.597/ .729	.612/.673	.738 /.839	.774 /.761	.653/.629	.823 /.827	.720 /.789
Oprah	.604/.636	.644/.613	.510/.626	.522/.482	.600/.680	.563/.565	.612/.599	.571/ .719	.567/.597
Bill Gates	.562/.670	.704 /.608	.513/.644	.509/.447	.639/.660	.619/.505	.555/.640	.643/.673	.557/.647
Crying on Street	.687/.575	.691/ .816	.663/.577	.718 /.781	.606/.700	.619/ .843	.602/.470	.711 /.838	.723 /.692

Table 5. cont.

	Teammate	<i>Bus Passenger</i>	<i>Someone Respect</i>	Opponent	Grumpy Customer	Restaurant Server	<i>Oprah</i>	Bill Gates
Teacher								
<i>Bus Driver</i>								
<i>Coworker</i>								
Beggar								
Doctor								
<i>Janitor</i>								
Boss								
<i>Grocery Clerk</i>								
<i>Fellow Student</i>								
Teammate								
<i>Bus Passenger</i>	.636/.680							
<i>Respect</i>	.742/.753	.612/.697						
Opponent	.479/.540	.603/.457	.421/.425					
Grumpy Customer	.489/.519	.730/.558	.401/.456	.582/.523				
Restaurant Server	.567/.718	815/.760	.575/.728	.631/.497	.689/.664			
<i>Oprah</i>	.447/.597	.624/.555	.448/.588	.497/.516	.622/.598	.570/.709		
Bill Gates	.447/.647	.680/.546	.430/.577	.497/.433	.651/.527	.611/.642	.732/.707	
<i>Crying on Street</i>	.671/.692	.735/.808	.641/.699	.516/.354	.605/.559	.668/.794	.560/.647	.303/.558

The first inter-item correlation within each pair corresponds to virtuous motives, the second to nonvirtuous motives. Inter-item correlations where both the virtuous and nonvirtuous coefficients > .700 are highlighted in yellow as candidates for removal due to redundancy. Not all candidates were removed, as only one target from a highly-correlated pair needed removal. Those targets printed in italicized font were ultimately removed.

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Table 6.

Interitem correlation matrix – Factor 3 (Negative Acquaintances/Strangers)

	Jealous of	Dislike	Hate	Took adv. of you	Rude to you	Opponent	Bully	Hitler	Hurt mom
Jealous of									
Dislike	.734/.808								
Hate	.679/.727	.725/.874							
Took adv. of you	.711/.654	.804/.711	.794/.676						
Rude to you	.794/.720	.808/.773	.763/.719	.805/.730					
Opponent	.629/.542	.563/.506	.493/.472	.546/.522	.585/.530				
Bully	.661/.615	.750/.653	.754/.655	.818/.766	.765/.665	.538/.623			
Hitler	.521/.446	.496/.478	.672/.499	.644/.577	.593/.502	.301/.442	.623/.573		
Hurt mom	.604/.537	.686/.624	.774/.578	.801/.729	.746/.634	.472/.423	.798/.689	.701/.623	
Grumpy customer	.719/.657	.736/.651	.571/.626	.654/.573	.747/.712	.582/.523	.815/.603	.368/.440	525/.504
Wont pay you back	.696/.618	.746/.719	.699/.756	.741/.777	.750/.723	.568/.594	.701/.714	.502/.581	.640/.719
Arrogant Businessman	.694/.652	.815/.699	.695/.681	.797/.735	.806/.712	.513/.584	.735/.737	.493/.559	.741/.658
Psychopath	.621/.498	.666/.525	.708/.574	.768/.628	.687/.563	.376/.425	.692/.638	.660/.685	.689/.729
Thief	.690/.607	.729/.638	.762/.589	.855/.606	.774/.639	.536/.484	.739/.670	.680/.690	.781/.740
Burglar	.710/.434	.757/.467	.787/.468	.815/.599	.764/.462	.492/.443	.716/.628	.634/.686	.732/.653
Rapist	.558/.474	.588/.488	.738/.477	.752/.594	.677/.477	.363/.375	.713/.610	.758/.734	.829/.696

Table 6 cont.

	Grumpy customer	<i>Wont pay you back</i>	<i>Arrogant Businessman</i>	Psychopath	Thief	<i>Burglar</i>
Jealous of						
<i>Dislike</i>						
Hate						
<i>Took adv. of you</i>						
<i>Rude to you</i>						
Opponent						
Bully						
Hitler						
<i>Hurt mom</i>						
Grumpy customer						
<i>Wont pay you back</i>	.709 /.555					
<i>Arrogant Businessman</i>	.760 /.668	.734 /.778				
Psychopath	.595/.525	.612/.636	.663/.635			
Thief	.639/.586	.702 /.622	.741 /.633	.664/.686		
<i>Burglar</i>	.608/.500	.669/.568	.709 /.581	.718 /.712	.794 /.696	
<i>Rapist</i>	.435/.474	.573/.551	.618/.536	.675/.730	.828 /.757	.687/.758

The first inter-item correlation within each pair corresponds to virtuous motives, the second to nonvirtuous motives. Inter-item correlations where both the virtuous and nonvirtuous coefficients > .700 are highlighted in yellow as candidates for removal due to redundancy. Not all candidates were removed, as only one target from a highly-correlated pair needed removal. Those targets included in italicized font were ultimately removed.

Targets loading on multiple factors. Three targets (boss, opponent, grumpy customer) loaded substantively on two factors. To evaluate for redundancy, inter-item correlations associated with these targets were evaluated in relation to other targets on both factors. For each of these targets no inter-item correlations reached removal threshold; thus, all three targets were retained on the final list.

Theoretical considerations for item removal. In addition to empiric evaluation of the scale characteristics, some consideration was given to the construct validity of the remaining targets. In particular, concern was raised by several members of the laboratory that responses to certain targets – Trump, in particular – may more accurately reflect participants’ political orientation than their level of empathy. Consistent with this concern, responses to Trump showed poor loading on all identified factors. To this end, Trump was also removed, bringing the final target list down to 20 (See Table 8 for the final list of targets).

Factor Analysis of the Reduced 20-Target Scale

All validation analyses were repeated on the reduced 20-target scale to ensure stable reliability/validity metrics.

Validation of Virtuous/Nonvirtuous Motives. Principal axis factorization (varimax rotation; Kaiser normalization) was again conducted to confirm the factor structure of the six queried motivations in the reduced 20-item scale. As before, a two-factor solution was extracted, with all virtuous motives (care, protect, affects me) loading on the first latent factor, and all nonvirtuous motives loading on the second latent factor. Both factors showed high reliability (virtuous factor: $\alpha = .947$; nonvirtuous factor: $\alpha = .966$), which was not significantly improved by exclusion of any items from either factor. Inter-item correlations remained

consistently high (all $rs > .845$, $p < .05$), and cross-factor item correlations remained consistently low (all $rs < .140$, $p > .05$). Specific factor loadings are presented in Table 7.

Table 7

Factor analysis of the six motivation items - reduced 20-target scale

Motivations	Factors	
	1	2
Concern	.022	.907
Protect	.131	.930
Affects Me	.089	.932
Manipulate	.939	.089
Information	.976	.065
Gain	.930	.088

Validation of Target Types

Virtuous Motives. Principal axis factorization was repeated on the reduced target set, andh resulted in a factor structure highly similar to the original 43-item version. Three factors with eigenvalues > 1 were identified, which together accounted for 63.55% of the total variance in virtuous motivations. As before, V1 (neutrally-valent strangers) included distant friend, teacher, teammate, boss, opponent, grumpy customer, beggar, restaurant server, a child having a temper tantrum and Bill Gates, V2 (negatively-valent strangers) included someone you are jealous of, someone you hate, a bully, a thief, a psychopath, and Hitler, and V3 (family members and close friends) included mother, father, cousin and best friend. Several targets (e.g. teammate, opponent, grumpy customer and someone you are jealous of) loaded highly on multiple factors.

Table 8

Factor loadings of targets, virtuous motivations – reduced 20-target scale

Targets	Factors		
	1	2	3
Mother	.138	-.113	.799
Father	.118	-.051	.651
Cousin	.360	.052	.762
Best Friend	.239	-.136	.777
Distant Friend	.603	.102	.451
Teacher	.679	.165	.409
Teammate	.620	.070	.506
Restaurant Server	.732	.317	.217
Boss	.657	.232	.312
Opponent	.598	.393	.135
Grumpy Customer	.695	.496	.098
Beggar	.678	.269	.198
Bill Gates	.602	.394	.136
Jealous	.554	.639	.012
Hate	.213	.865	-.004
Bully	.345	.772	-.039
Hitler	.041	.795	-.052
Psychopath	.265	.761	-.063
Thief	.330	.800	-.073
Child having temper tantrum	.497	.162	.381

Nonvirtuous Motives. Principal axis factorization resulted in a two-factor structure, which together accounted for 64.70% of the total variance in nonvirtuous motivations. As before, NV1 included both family and positive/neutral acquaintances (e.g. mother, father, distant friend, teacher, restaurant server, Bill Gates) and NV2 included negatively-valent

acquaintances/strangers (e.g. someone you are jealous of, someone you hate, a bully, a thief).

Whereas the original 43-item scale identified a third factor explaining ~4% of the variance in nonvirtuous motives, the reduced scale only identified two factors with eigenvalues > 1 were identified.

Table 9

Factor loadings of targets, nonvirtuous motivations – reduced 20-target scale

Targets	Factors	
	1	2
Mother	.840	-.042
Father	.730	.130
Cousin	.886	.147
Best Friend	.905	.077
Distant Friend	.880	.190
Teacher	.747	.360
Teammate	.797	.308
Restaurant Server	.768	.360
Boss	.614	.499
Opponent	.392	.552
Grumpy Customer	.476	.646
Beggar	.625	.305
Bill Gates	.577	.439
Jealous	.416	.682
Hate	.267	.745
Bully	.213	.794
Hitler	.021	.726
Psychopath	.113	.761
Thief	.027	.858

Correlations with Closeness Ratings

In addition to motivation ratings, participants provided a closeness rating for each of the MtE targets, which afforded an opportunity to evaluate the relationship between virtuous/nonvirtuous motives and social closeness. As expected based on previous research, social closeness showed a strong positive relationship with virtuous motivations, $r = .656$; $p < .001$, and also with total motivations, $r = .640$, $p < .001$. Positive relationships were also seen between social closeness and nonvirtuous motivations, however, this relationship was significantly weaker in nature, $r = .338$, $p < .001$. Notably, a simple linear regression model with virtuous and nonvirtuous motivations entered as regressors indicated that both motivation types explained independent variance in closeness ratings (virtuous: $\beta = .624$, $t = 11.44$, $p < .001$; nonvirtuous: $\beta = .260$, $t = 4.80$, $p < .001$).

Convergent Validity

In addition to the MtE scale, participants also completed the Interpersonal Reactivity Index (IRI; (Davis, 1983), and the Big-Five Aspects Scale (BFAS; (DeYoung, Quilty, & Peterson, 2007)), providing an opportunity for early testing of convergent validity.

Correlations with Empathic Concern and Perspective Taking. Consistent with theorized positions, total virtuous motives were positively correlated with both empathic concern ($r = .488$) and perspective taking ($r = .373$) subscales of the IRI, while total nonvirtuous motives showed slight but nonsignificant negative relationships with both scales ($rs = -.137$ and $-.112$, respectively). This resulted in total overall motives to empathize (ie. virtuous + nonvirtuous) correlating moderately with the empathic concern subscale ($r = .209$, $p = .02$), and nonsignificantly with the perspective taking subscale ($r = -.058$, ns). These results are consistent

with expectations, given that the IRI focuses almost entirely on caring/affecting aspects of empathy. In addition, the nonsignificant relationship with nonvirtuous motives again emphasizes its relative independence, and that it does not track as a simple reciprocal of virtuous motives.

Correlations with the Big-Five Aspects Scale. Examination of relationships with the BFAS offered an additional opportunity to evaluate the convergent validity of the MtE scale. In particular, virtuous motives were expected to correlate positively with Agreeableness (in particular, its Compassion subscale), while nonvirtuous motives were expected to correlate negatively with Agreeableness (in particular, its Politeness subscale). Results were largely in line with these expectations: Agreeableness correlated positively with the magnitude of virtuous motives ($r = .356, p < .001$), and this effect was carried primarily by its Compassion subscale ($r = .447, p < .001$). In contrast, Agreeableness correlated negatively with the magnitude of nonvirtuous motives ($r = -.300, p < .001$), and this effect was carried primarily by its Politeness subscale ($r = -.382, p < .001$). Additional, less powerful, relationships were seen with Openness and Extraversion; see Table 10 for the full correlational matrix).

Table 10. *Partial correlation matrix between virtuous/nonvirtuous motives, IRI and BFAS*

	Virtuous Motivations	Nonvirtuous Motivations	Total Movations
IRI Empathic Concern	.488 ^a	-.137	.222 ^b
IRI Perspective Taking	.373 ^a	-.112	.166 ^c
BFAS Extroversion	.213	.043	.158 ^c
Enthusiasm	.313 ^a	-.057	.146 ^c
Assertiveness	.041	.119	.111
BFAS Neuroticism	-.017	.125	.081
Withdrawal	-.018	.040	.019
Volatility	-.009	.210 ^b	.148 ^c
BFAS Conscientiousness	.012	.058	.049
Industriousness	.052	.021	.046
Orderliness	-.054	.067	.017
BFAS Agreeableness	.346 ^a	-.300 ^a	-.004
Compassion	.447 ^a	-.165 ^c	.148 ^c
Politeness	.178 ^c	-.382 ^a	-.173 ^c
BFAS Openness	.227 ^b	-.172 ^c	.011
Intellect	.130	-.114	-.005
Openness	.255 ^b	-.177 ^c	.024

^a $p < .001$, ^b $p < .01$, ^c $p < .05$

Discussion

The present study introduces a new scale – the Motivation to Empathize (MtE) scale – which was designed to quantify one’s propensity to empathize for either virtuous or nonvirtuous reasons. The study outlines the steps taken towards scale development, and provides preliminary evidence of scale reliability and construct validity. Factor analytic techniques separated empathic motivations into two (high-alpha) factors, with all virtuous motives loading on latent factor one, and all nonvirtuous motives loading on latent factor two. Additionally, the study provided initial evidence of hypothesized relationships with external measures including the empathy and perspective taking subscales of the IRI, and the agreeableness dimension/aspects of the BFAS. In total, these results provide solid preliminary evidence for the existence – and independence – of virtuous/nonvirtuous motives to empathize.

The independence of the virtuous/nonvirtuous factors deserves further comment, as there was good reason to expect that this would not be the case. Indeed, an equally plausible alternate hypothesis was that virtuous/nonvirtuous motives would represent opposite ends of a single spectrum of virtuosity, such that increases in one motivation type would lead to a reciprocal decrease in the other. This is not what the data revealed, however. Rather, results suggested that participants experienced considerable nuance in their propensity to empathize for either virtuous or nonvirtuous motives, which belied any obvious relationship or dependency. This may be interpreted as evidence in support of the existence of the ‘nonvirtuous motives’ construct, and as good rationale to consider multiple motivations to empathize in future work.

Traditionally, empathy has been linked most closely with virtuous motives; for example: concern, sympathy, caring, helping (e.g. (Eisenberg & Miller, 1987; Hoffman, 1985; Roberts & Strayer, 1996; Zaki, 2014), and traditional empathy questionnaires have been heavily weighted

towards items that index these virtuous motives. One possibility is that the composition of these empathy questionnaires has contributed to a form of circularity, wherein theoretical/empirical conceptualizations of ‘empathy as virtuous’ have received continued support. One important take-home from the present findings may be that the validity of this conceptualization should receive renewed inquiry. With this in mind, it should be noted that while the current version of the MtE scale was developed to query nonvirtuous motives, the basic framework of the scale could be readily co-opted to evaluate other potential motivational types as well. Thus, in addition to delving further into the notion of nonvirtuous empathy, future research could consider the utility of modifying the scale for evaluation of broader motivational features.

The MtE scale also afforded the opportunity to explore more nuanced differences in the propensity to empathize; specifically, to evaluate the manifestation of empathy as a factor of target type and social closeness. Interestingly, the manifestation of virtuous motives correlated positively with social closeness and tended to be higher for family/friends than for neutral strangers than for disliked individuals (see (Mina Cikara, Bruneau, & Saxe, 2011; Strang et al., 2017). In contrast, nonvirtuous motives showed significantly weaker relationships with target type and social closeness, with expressions of nonvirtuous motives more consistent across all target/closeness types. This may be the first demonstration of this in the literature, and so underlying mechanisms can only be speculated upon, however, the differential relationships with BFAS Agreeableness aspects (Compassion/Politeness) may be informative (as they have been shown to themselves relate differentially to moral ideology (Hirsh, DeYoung, Xiaowen Xu, & Peterson, 2010). Specifically, virtuous motives showed a strong positive correlation with the Compassion aspect (related to concern for other’s well-being), while nonvirtuous motives showed a strong negative correlation with the Politeness aspect (related to suppression of

aggressive/norm-violating impulses (DeYoung et al., 2007). The present results suggest that concern may be more strongly mediated by social distance than impulse-suppression. Another possible factor could be social desirability, which the present study did not include.

It should of course be stressed that the results reported within remain preliminary, and that additional validation of the MtE scale, and of the virtuous/nonvirtuous constructs, should be undertaken before firm conclusions are developed. Indeed, one of the primary goals of the MtE scale was to encourage additional work into the specific motivations that may underlie the manifestation of empathy. Avenues for future work may include confirming the existence and independence of virtuous/nonvirtuous motives, and/or further exploring the unique distribution of virtuous/nonvirtuous motives and their unique relationships with external constructs. One interesting avenue could be to evaluate variation of empathic motives within individuals with heightened antisocial characteristics, where greater expression of nonvirtuous motives may be anticipated. Additionally, the extent to which virtuous/nonvirtuous motives relate to real-world helpful/harmful behavior could be an important direction to explore. Together, these efforts may help to develop a more nuanced, differentiated view of the empathic construct than current conceptualizations/measures tend to afford.

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