



道德认知、道德情绪与亲社会行为的关系：来自元分析的证据

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摘要 有关道德认知、道德情绪与亲社会行为的关系一直备受研究者的关注, 但现有的研究结果并不一致, 尤其是道德认知和道德情绪对亲社会行为影响的异同及其在个体发展进程中的发展变化, 仍需要进一步探究. 基于39个效应值9960名被试(道德认知)和29个效应值6946名被试(道德情绪)的元分析, 发现道德认知和道德情绪均与亲社会行为存在中等程度的相关, 但年龄组的调节作用均未达显著水平. 进一步比较道德认知和道德情绪对亲社会行为的影响, 结果仅在青少年阶段发现, 道德情绪与亲社会行为的关系更为密切. 这些结果确认了道德认知和道德情绪对亲社会行为的影响, 提示了在不同发展阶段中道德认知和道德情绪作用的差异性, 有助于更好地理解个体的道德发展.

关键词 道德认知, 道德情绪, 亲社会行为, 元分析

道德能力对于社会和个人、家庭、同伴关系都有着重要的作用^[1], 因而得到广泛的关注. 道德(morality)是“一种社会意识形态, 指以善恶评价的方式调整人与人、人与社会之间相互关系的标准、原则和规范的总和, 也指那些与此相应的行为和活动”^[2,3]. 而在心理学研究中, 道德能力包含了能够评价行为的对错、其中涉及的情感反应, 以及做出道德的行为这3个方面^[4]. 对儿童和成人的大量研究发现, 道德能力的认知成分和情绪成分能够对个体的社会互动和社会行为产生一定的影响^[5,6]. 其中, 亲社会行为(prosocial behavior)可以看作是道德发展中一个重要的维度. 它指的是“旨在使他人收益的行为”^[7], 亲社会行为反映了指向他人的正性情绪、态度和行为^[8], 对个体的自尊、学业成就、幸福感和积极社会互动等能够起到积极的作用^[9].

道德心理学中有关理性与情感的争论早已有之. 自Kohlberg建立道德认知发展模型以来, 道德认知的重要性得到了广泛的关注, 其中不少研究探讨了道德认知与亲社会行为的关系^[10,11]. 例如, Eisenberg和Shell^[12]的研究中, 实验者向儿童讲述一个道德两难故事, 故事中一个小朋友要去朋友家参加生日聚会, 在途中遇到了另一个小朋友摔倒在路旁, 那么这个小朋友是会停下来帮助这个摔倒的小朋友, 让自己错过生日会和生日蛋糕; 还是会直接去生日会, 而无视这个摔倒的小朋友呢? 研究发现, 与Kohlberg的理论一致, 道德认知发展更好的儿童, 更可能放弃蛋糕和生日会, 认为应该去帮助摔倒的小朋友. 此外的一些研究, 在个体发展的不同阶段中探讨了道德认知和亲社会行为的关系, 结果在各个年龄段的被试中均有研究发现, 道德认知

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发展更成熟的个体,具有更亲社会的行为表现^[11,13];但也有研究发现了不一致的结果^[14,15]。

有研究者认为,这些研究过分强调了认知的发展,低估了情绪成分对行为造成的影响^[16,17]。例如,Gilligan认为对他人的关爱和共情等情感反应也同样能够影响个体的道德判断和社会行为,尤其是女性^[17,18]。Nunner-Winkler和Sodian^[19]的研究也发现,4~5岁左右的儿童会去推搡在秋千上玩耍的小朋友,然后自己去荡秋千。尽管年幼儿童能够理解违反规则之类的行为是不道德的,他们会因为自己玩到了秋千而感到高兴,即不能够做出正确的道德情绪判断和归因,这被称为“快乐的损人者(happy victimizer)”现象。有研究者认为,在学龄前阶段“快乐的损人者”现象的发现表明,对道德情绪的理解需要个体将道德规则内化,进而作用于对自身行为的调整中,即能够在一定程度上构成亲社会行为的动机,对亲社会行为的影响也可能更为显著^[5,20]。尤其是近年来,研究者更为关注和强调道德情绪对行为的重要作用^[5,21,22],但有关道德情绪与亲社会行为的研究也未得到一致性的结果^[23,24]。

可见,尽管已有不少的研究探讨,但道德认知、道德情绪与亲社会行为的关系仍需要进一步的明晰,尤其是道德认知和道德情绪对于亲社会行为作用的异同。在目前关于道德理解和亲社会行为关系的研究中,直接比较道德认知和道德情绪对亲社会行为影响异同的工作非常有限,仅有的几项研究中结果也存在较大的差异。例如,Miller等人^[21]的研究发现,学龄前儿童他人指向的道德推理和与同情相关的情绪反应均能够激发同伴帮助行为;而Gummerum等人^[25]的研究则发现,学龄前儿童在独裁者游戏中的分配数量与其道德情绪有关,而与道德判断无关。Ongley等人^[26]在学龄前和学龄儿童的研究中发现,儿童的捐赠行为与其道德推理能力相关,而与内疚等道德情绪无显著相关。Malti等人^[14]的研究也发现,教师评价的儿童亲社会行为与儿童对于违规行为是否应该受到惩罚的评价有关,且只与违规行为后的道德无关的情绪有关。在青少年的相关研究中,Arsenio等人^[27]与Krettenauer和Eichler^[28]的研究关注了道德能力与反社会行为的关系,结果发现青少年的攻击或违规行为与道德情绪和道德认知都有密切关系。这些研究还不能一致地说明道德认知与道德情绪对亲社会行为影响的程度或强弱,且在被试群体、行为类型等方面均存在较大的差异,不能够进行直接的比较和解释。

由此,本研究拟通过元分析的探讨并比较道德认知与道德情绪对亲社会行为的影响,这能够在一定程度上帮助我们解释道德认知和道德情绪与亲社会行为关系。此外,考虑到道德认知和道德情绪随年龄的发展成熟可能影响其与亲社会行为的关系,元分析中将涉及被试的年龄阶段纳入作为关注的调节变量。

1 研究方法

1.1 文献搜索

综述1970年1月~2019年8月期间发表的,有关道德认知、道德情绪与亲社会行为关系的实证研究,涵盖学龄前儿童、学龄儿童、青少年和成年在内的不同发展阶段群体。研究使用(“道德认知”或“道德推理”或“道德判断”或“道德情绪”或“情绪归因”)和(“道德行为”或“亲社会行为”或“行为”)作为关键词组,在CNKI数据库和中国优秀硕士学位论文全文数据库以及中国博士学位论文全文数据库中,进行中文文献搜索;使用(moral reasoning, moral cognition, moral judgment, moral evaluation, moral emotion, emotion attribution)和(prosocial behavior, behavior, action)为关键词组,在PsycARTICLES, PsycINFO以及ProQuest博硕士论文全文数据库中,进行英文文献搜索。同时参考互联网谷歌学术(google scholar)中搜索的结果,从一些重要的文献综述中补充相关的文献^[20,29],并根据文献纳入标准进行筛选。

1.2 文献纳入标准

文献纳入标准包括:(1)包含道德认知和/或道德情绪与亲社会行为关系的实证研究,理论、综述性研究和元分析的数据结果并未包含在其中;(2)被试年龄在3岁以上,学龄前儿童、学龄儿童、青少年和成人个体,仅包含典型发展群体;(3)研究报告了道德认知和/或道德情绪与亲社会行为关系的相关效应值,或者可以从已报告的数据中计算相应的效应值。文献筛选具体流程见图S1。

1.3 文献编码及效应值提取

为了考察可能的调节变量对道德认知和道德情绪与亲社会行为关系的作用,我们对每个研究进行了特征编码和效应值的提取。编码的调节变量包括文献信息(发表年份+作者)、被试群体年龄(学龄前儿童、学

龄儿童、青少年或成人), 以及数据发表与否(已发表或未发表), 编码者一致性系数 κ 在0.87~1.00之间. 初步分析发现, 被试群体性别、亲社会行为的测量方式和亲社会行为的类型对元分析的结果均不存在调节作用, 故在结果分析中, 主要关注了年龄群体的调节作用.

为了更好地分析调节变量对道德认知和道德情绪与亲社会行为的关系, 在提取效应值的过程中, 我们尽可能选择详尽的、独立样本的结果. 针对研究中的效应值, 我们进行了如下处理.

首先, 当前元分析中涉及的研究中, 有4个研究(涉及6个效应值)并未直接报告相关系数. 其中3个研究(涉及4个效应值)仅报告了回归方程的 β 值^[25,30,31]. 参考Malti等人^[20]在其元分析中的处理方法, 对 β 值进行了转换, 如果 $\beta \geq 0$, 则 $r = \beta + 0.05$, 否则 $r = \beta$. 其中1个研究(涉及2个效应值)仅报告了2个群体的均值、标准差和被试量^[32], 我们使用了Ellis编写的在线效应值计算工具^[33], 将其效果大小计算为相应的 r 值.

其次, 在使用相关考察道德认知和/或道德情绪与亲社会行为关系时, 部分研究同时报告了控制了年龄、性别、一般认知能力等相关因素的偏相关结果, 当前元分析中我们选择纳入偏相关的结果. 在数据预处理的过程中, 通过元分析的调节变量分析, 并未发现加入控制变量与否对研究结果的影响, 故在正式的数据分析中并未将该调节变量纳入考量.

最后, 部分研究中报告了多种道德情绪与亲社会行为的关系. 元分析中并未对报告的所有数据进行整合, 而是选择了其中较具代表性的道德情绪(内疚). 元分析中研究涉及的道德认知、道德情绪和亲社会行为种类的相关编码具体见表S1.

在此基础上, 本研究使用了R(3.6.1)软件Metafor程序包^[34]进行元分析. 参考前人的研究基础, 我们对研究间异质性进行了分析, 在研究间异质的情况下, 报告随机效应模型的结果; 而在研究间同质的情况下, 报告固定效应模型的结果^[35]. 我们还使用漏斗图(funnel plot)和Rosenthal's Fail-safe N 统计, 并在分析时纳入了数据是否已发表这调节变量, 以考察元分析结果是否存在发表偏差.

2 结果

根据以上编码和效应值提取标准及方法, 通过两个元分析分别探讨道德认知、道德情绪与亲社会行为的关系, 两个元分析中分别包括39个效应值、9960名

被试(道德认知)和29个效应值、6946名被试(道德情绪). 两个元分析中均涉及丰富的被试年龄群体, 其中未发表的数据分别占15%和14%.

道德认知和道德情绪与亲社会行为关系的元分析结果发现(图1), 研究间存在异质性, $Q_{(38)}=160.05$, $P<0.001$, $I^2=79.14$ (道德认知)和 $Q_{(28)}=131.84$, $P<0.001$, $I^2=79.41$ (道德情绪). 随机效应模型的结果显示, 道德认知($Z=9.28$, $P<0.001$)和道德情绪($Z=8.43$, $P<0.001$)与亲社会行为之间的相关显著, 两者均与亲社会行为具有中等程度的相关 $r=0.22$ (道德认知)和 $r=0.27$ (道德情绪).

研究间存在显著的异质性, 提示我们可能存在调节变量影响二者之间的相关关系, 我们将调节变量的结果总结在表1中. 结果发现, 道德认知和道德情绪与亲社会行为的关系在研究间保持相对的稳定, 被试年龄组对道德认知/道德情绪与亲社会行为关系的影响未达显著水平.

为探讨在与亲社会行为的关系中道德认知和道德情绪影响的异同, 我们进一步将两个元分析整合起来, 通过交互作用分析考察各个年龄组中道德认知和道德情绪二者与亲社会行为的关系是否存在差异. 结果发现, 整体上道德认知和道德情绪二者与亲社会行为的关系没有显著差异, $Q_{(1)}=1.97$, $P=0.160$; 其与年龄组的交互作用也未见显著(图2), $Q_{(7)}=11.95$, $P=0.102$. 进一步分年龄组的比较结果发现, 仅在青少年群体中, 道德情绪与亲社会行为的相关($r=0.33$)边缘显著地高于道德认知($r=0.19$), $Q_{(1)}=3.23$, $P=0.072$.

最后, 针对发表偏差的分析结果漏斗图见图3. Rosenthal's Fail-safe $N=4414$ (道德认知)和4921(道德情绪), 这两个均值大于 $5K+10$ 的判断标准. 研究是否发表这一调节变量的分析结果也表明, 已发表与未发表研究结果之间均不存在显著差异, $Q_{(1)}=0.90$, $P=0.343$ (道德认知)和 $Q_{(1)}=0.22$, $P=0.640$ (道德情绪). 故可以认为在这两个元分析中存在发表偏差的可能性较小.

3 讨论

通过对道德认知、道德情绪与亲社会行为关系的相关研究进行梳理, 比较道德认知、道德情绪与亲社会行为关系的差异, 及其随年龄的发展变化. 基于39个效应值9960名被试(道德认知)和29个效应值6946名被试(道德情绪)的元分析发现, 道德认知、道德情绪与亲社会行为存在中等程度的相关($r=0.22$ 和 $r=0.27$), 但并未见已编码的调节变量(年龄)对道德能力与亲社会行

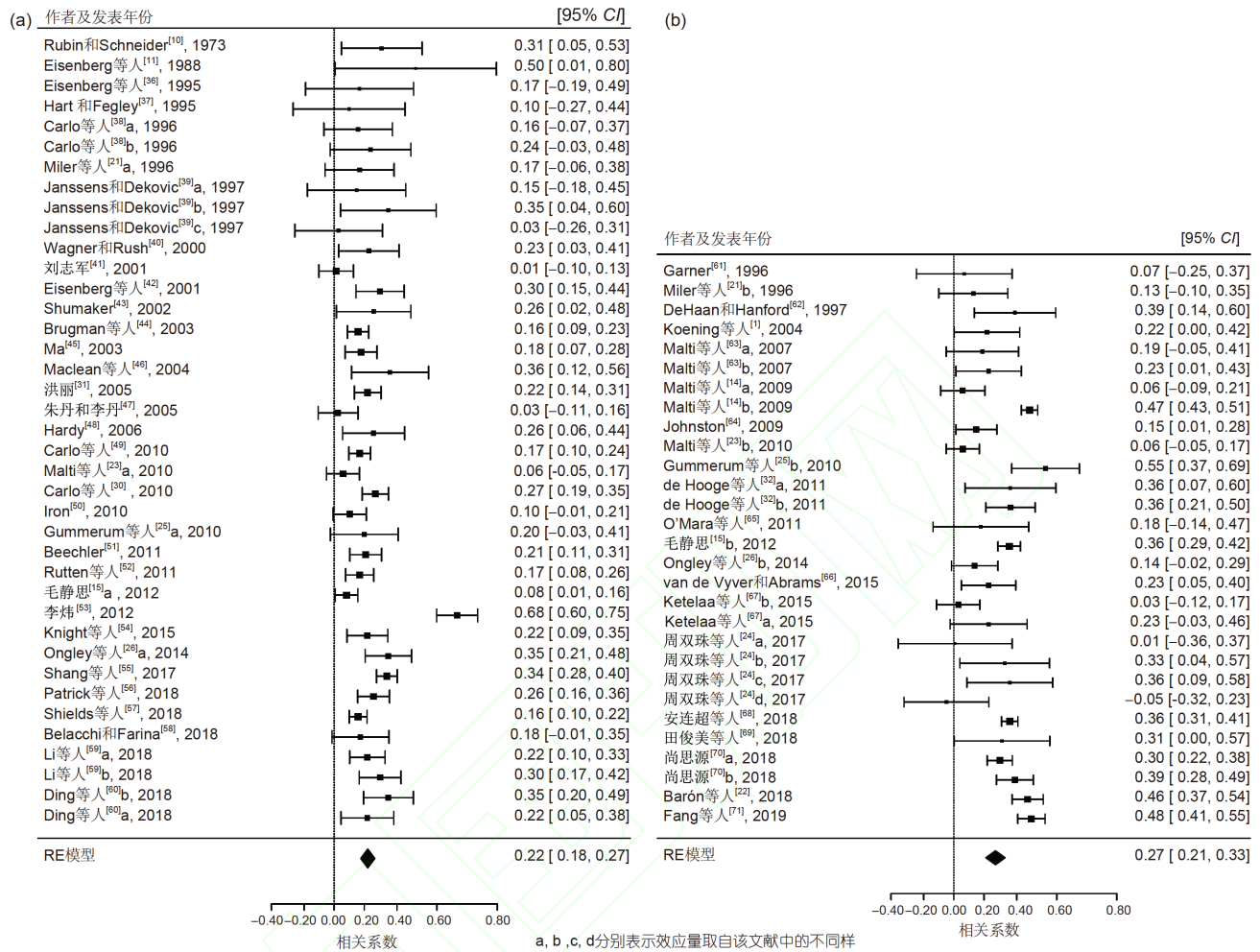


图1 道德认知(a)、道德情绪(b)与亲社会行为关系的元分析森林图
Figure 1 Forest plots of associations of moral cognition (a) and moral emotion (b) with prosocial behavior

表1 道德能力与亲社会行为关系的调节变量分析^{a)}

Table 1 Summary of meta-analytic results on the effects of moderators on moral cognition and moral emotion

调节变量条件	道德认知				道德情绪			
	k	r	95% CI	Q _{within}	k	r	95% CI	Q _{within}
整体	39	0.22 ^{***}	0.18, 0.27	160.05 ^{***}	29	0.27 ^{***}	0.21, 0.33	131.84 ^{***}
被试年龄				5.86				3.70
学前儿童	3	0.24 [*]	0.02, 0.45		10	0.24 ^{**}	0.12, 0.35	
学龄儿童	10	0.21 ^{***}	0.11, 0.30		7	0.21 [*]	0.08, 0.35	
青少年	18	0.19 ^{***}	0.13, 0.26		5	0.33 ^{***}	0.18, 0.47	
成人	8	0.33 ^{***}	0.22, 0.43		7	0.36 ^{***}	0.23, 0.49	
是否发表				0.90				0.22
已发表	33	0.21 ^{***}	0.16, 0.27		25	0.27 ^{***}	0.20, 0.35	
未发表	6	0.27 ^{***}	0.16, 0.39		4	0.31 ^{***}	0.15, 0.47	

a) *表示P<0.050, **表示P<0.010, ***表示P<0.001

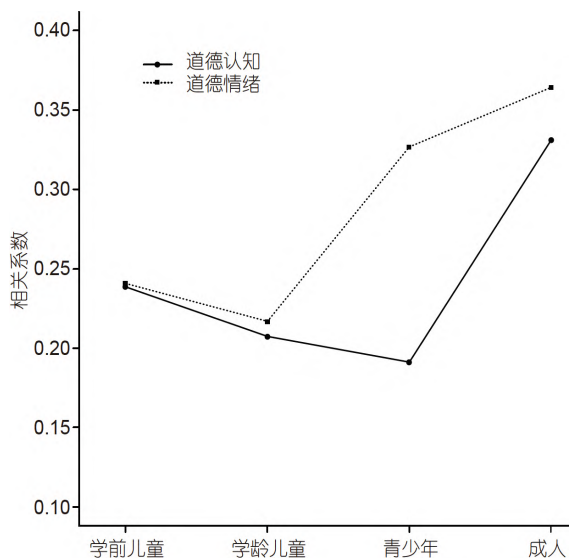


图2 各年龄组中道德认知、道德情绪与亲社会行为关系比较
Figure 2 Comparison of associations of moral cognition and moral emotion with prosocial behavior in each age group

为关系的调节作用。在这两个元分析的基础上，进一步比较了道德认知和道德情绪二者与亲社会行为关系及其在各个年龄段中的发展变化，结果仅在青少年阶段发现，二者与亲社会行为的相关程度存在边缘显著差异，其中道德情绪与亲社会行为的关系更为密切。

首先，本元分析结果发现，道德认知和道德情绪均与亲社会行为存在中等程度的相关，这与以往的研究

结果基本一致。在吴鹏和刘华山^[29]针对道德认知与道德行为关系的元分析研究中，发现道德推理与亲社会行为的相关系数为 $r=0.23$ ；Malti和Krettenauer^[20]针对道德情绪与道德行为关系的元分析中，则发现道德情绪与亲社会行为的相关系数为 $r=0.13$ 。本元分析综合分析了以往的研究，确认了道德认知和道德情绪均与亲社会行为存在密切的关系。

其次，本研究重点关注了年龄的调节作用，但并未发现不同年龄阶段道德能力与亲社会行为关系的显著差异，这与以往元分析的结果也是一致的^[20,29]。道德能力与亲社会行为关系跨年龄的稳定性提示我们，道德能力可能在一定程度上反映了与亲社会行为相关的个体差异^[20]；而这一结果也得到了人格和生理基础研究的支持^[9,13,72,73]。

值得注意的是，在道德认知和道德情绪二者对亲社会行为的作用比较方面，本研究发现整体上二者的影响程度基本相同。尽管并未发现道德能力与亲社会行为的关系随年龄显著的变化，但分年龄段的结果显示，在青少年阶段，亲社会行为与道德情绪的关系更为密切；这一结果提示我们考虑到从学龄前到成年各阶段的发展特点^[20,74]，在不同年龄段道德情绪与道德认知对亲社会行为的影响可能存在一定的差异。在学龄前和学龄早期，儿童对于复杂情绪的理解还存在一定局限^[74]，对于道德情绪的理解也受到认知能力的限制，

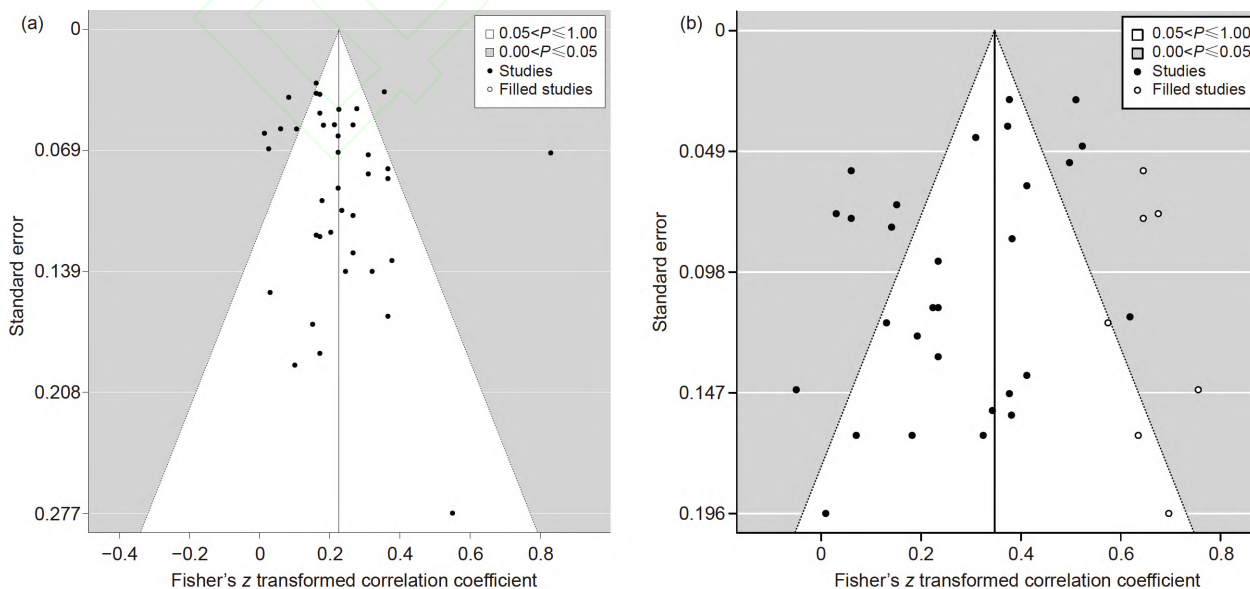


图3 道德认知(a)、道德情绪(b)与亲社会行为关系的元分析漏斗图
Figure 3 Funnel plots of associations of moral cognition (a) and moral emotion (b) with prosocial behavior

因而理解道德情绪的表现不能够充分体现他们对于道德相关情绪的理解, 道德情绪对亲社会行为的影响也没有凸显出来. 在以往考察学龄前和学龄儿童, 并同时考察道德认知与道德情绪与亲社会行为关系的研究中, 既有发现道德认知独特作用的^[14,26], 也有发现道德情绪独特影响的^[25], 或二者同时发挥作用的^[21]. 可见, 在这一阶段个体的道德认知和道德情绪对亲社会行为的影响基本相当, 而研究间的差异则可能受到这些研究考察的亲社会行为类型等因素的影响.

随着年龄的增长, 到了青少年阶段, 个体已经获得了解道德情绪的相关的认知能力^[20], 相比于道德认知, 道德情绪与亲社会行为的关系更为密切. 尽管我们没有发现直接比较青少年中道德认知和道德情绪对亲社会行为作用异同的研究, 但在探讨道德能力与反社会行为关系的研究中, 均发现了道德情绪独特的作用^[27,28]. 这提示我们, 在对亲社会行为的影响上, 道德认知和道德情绪可能确实存在一定的差异, 而这种差异在特定年龄阶段显现出来, 特别是可能与青少年阶段个体的发展特点息息相关. 青少年阶段个体激素水平和大脑发育都处于发展进程中^[75], 其显著的特点之一就是腹侧情感系统的成熟和过度激活^[76]. 其中, 青少年阶段杏仁核的活动与儿童和成人存在差异, 例如青少年在面对负性情绪面孔时, 杏仁核有更大的激活^[77]. 杏仁核的激活与道德情绪理解有关^[78], 而与道德认知无关^[79]. 可见, 杏仁核活动的异常, 可能使得青少年对于道德情绪相关信息也存在较高的敏感性, 进而影响其社会行为. 此外, 青少年受到同伴的影响尤为凸显^[80], 同伴群体可能影响他们对于社会行为的履行^[81], 这也可能在一定程度上干扰了道德认知对亲社会行为的作用.

然而, 本研究还存在一定的局限性. 首先, 元分析涉及的探讨道德能力与亲社会行为关系的研究中, 研究者对于个体道德认知和道德情绪的测量, 其实并未完全分离认知成分和情绪成分. 在道德认知能力的测量中, 研究者主要使用经典的道德两难故事^[82,83], 根据道德两难故事和亲社会道德两难故事的内在逻辑自编的道德故事情境^[12,28,84], 以及确定问题测验和亲社会推理客观测量等标准化测量工具^[11]对个体的道德认知发展水平进行评价. 尽管研究者倾向于将这些判断和推理过程归结为道德认知过程, 但这些认知过程并非没有情绪相关加工的参与. 同样的, 研究通常使用情境故事任务, 考察被试对故事中的主人公或者自己处于相

应情境中的情绪评价^[85,86], 并对行为者做出道德相关行为后的情绪进行解释和归因^[27]. 此外, 一些研究使用启动的范式, 让被试去描述或回忆自己的生活事件, 来激发其特定的道德情绪体验^[32]; 或使用特定道德情绪的自我评价量表来探讨特定道德情绪与亲社会行为的关系^[87]. 这些任务虽然更为强调道德能力中情绪相关的成分, 但同样需要个体进行一定的认知推理. 因此, 尽管元分析的结果能够在一定程度上帮助我们理解道德认知和道德情绪对亲社会行为的影响, 但想要进一步厘清其中的认知和情绪成分, 仍需要更多的研究从测量的角度出发对道德认知和道德情绪进行更系统的区分.

其次, 元分析中分属于各个年龄段的研究相对有限, 受到研究数量的限制, 尤其在探讨年龄与道德认知/情绪的交互作用时, 元分析的结果需要更加谨慎的理解和解释. 尽管本研究中并未发现年龄与道德能力的显著交互作用, 但在各年龄组中道德认知、道德情绪与亲社会行为关系比较图中(图3)可见, 道德认知和道德情绪在青少年阶段的影响有较大的分离, 而事后检验也发现青少年阶段二者与亲社会行为的相关程度存在边缘显著的差异. 因此, 想要更好地理解道德认知和道德情绪对于亲社会行为的作用及其在不同年龄段中的异同, 仍需要有更多的实证研究的支持.

最后, 同样受到研究数量的限制, 鲜有研究分别报告或比较不同性别群体中的结果, 故而未能在本研究中探讨性别差异的影响. 事实上, 被试的性别是影响其道德能力和亲社会行为表现的重要影响因素. Gilligan^[18]认为, 男性和女性在道德发展的轨迹上可能存在一定的差异, 其中男性更倾向于使用公正原则, 而女性则更倾向于关爱他人, 这一论点也得到了相关研究和元分析的验证^[88]. 而在亲社会行为上研究者同样发现了一定的性别差异^[89,90]. 这些研究结果提示, 被试的性别可能是影响道德能力与亲社会行为关系的一个影响因素^[30], 故而需要在今后的研究中加以探讨.

4 结论

本元分析发现, 道德认知和道德情绪均与亲社会行为有关, 道德认知能力较高的个体和道德情绪理解能力较好的个体, 均有更加亲社会的行为表现. 在青少年阶段, 道德认知和道德情绪二者对亲社会行为的影响存在差异, 道德情绪与亲社会行为的联系比道德认知更为密切.

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补充材料

图S1 文献筛选流程

表S1 元分析文献编码

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Summary for “道德认知、道德情绪与亲社会行为的关系：来自元分析的证据”

Association between moral cognition, moral emotion and prosocial behavior: Evidence from meta-analysis

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Moral competence plays an important role in social, family, and peer relationships, and thus has received extensive attention. A large number of studies on children and adults have found that the cognitive and emotional components of moral competence can have a certain degree of impact on social interaction and social behaviors. Among these outcomes, prosocial behavior, or “behaviors aimed at benefiting others”, is considered important in moral development. Yet, relationship between moral cognition, moral emotion and prosocial behavior still needs to be further clarified. Especially, the large body of research on prosocial behavior has provided only limited direct comparison as to how the influences from moral cognition and moral emotion are similar and different. Therefore, the current meta-analysis was conducted to compare the roles of moral cognition and moral emotion in prosocial behavior. In addition, because maturation of moral cognition and moral emotion with age might moderate their relationship with prosocial behavior, age of participant was included as a potential moderator of interest.

Empirical studies with typically developing participants at or over the age 3 years were selected. Then, results were systematically pooled to show how the roles of moral cognition and moral emotion might differ. Effect sizes describing the relationship between moral competence and prosocial behavior were extracted/calculated from the data.

Altogether, 39 independent effect sizes (9960 participants) for moral cognition and 29 independent effect sizes (6946 participants) for moral emotion were retained for meta-analysis. All data were analyzed in R (3.6.1) with the Metafor package.

The results showed that both moral cognition ($r = 0.22$) and moral emotion ($r = 0.27$) were positively associated with prosocial behavior. There were significant differences across studies in the strength of the relationship between moral competence and prosocial behavior, but the current meta-analysis did not yield evidence of statistical difference that age could explain these differences.

Further analysis revealed that moral emotion and moral cognition played the same role overall. In most age groups, the two predictors had similar effect sizes on prosocial behavior, and only in adolescents, moral emotion had a stronger association with prosocial behavior at marginal significance than moral cognition had. One explanation is that individual hormone levels and brain structures are developing rapidly in adolescence, which may make adolescents more sensitive to information conveyed by moral emotion than that by moral cognition and greatly strengthen the influences of moral emotion on their social behaviors. Further studies are desired to examine the finer differences between the roles of moral emotion and moral cognition in relation to the developmental characteristics at different stages from preschool to adulthood.

Overall, the findings provided evidence that both moral cognition and moral emotion were associated with prosocial behavior, and played similar roles despite a trend toward difference at certain development stages.

moral cognition, moral emotion, prosocial behavior, meta-analysis

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