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Ethical Perspectives and Conflict-of-Interest Bias: Implications for Research and Practice in Neuropsychological Rehabilitation

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Abstract

Objective: Recent findings indicate that a conflict of interest (COI) can subconsciously influence an agent's understanding even before potential immoral acts—a phenomenon known as COI bias. This study investigates how ethical perspectives affect COI bias across interest conditions.

Method: In a between-subjects design, participants were classified as utilitarians or deontologists based on their dominant ethical perspective and randomly assigned to one of three experimental conditions (COI, AOI, or neutral). They performed a stimulus-choice task in a visual masking paradigm, with response accuracy and reaction time serving as dependent measures. Data were analyzed using nonparametric tests.

Results: Utilitarians showed significantly lower accuracy than deontologists in the COI condition, indicating greater susceptibility to COI bias. No significant differences between ethical perspectives emerged in the AOI or neutral conditions, and reaction times did not differ between utilitarians and deontologists in any condition.

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Conclusion: Ethical perspectives, particularly utilitarianism, modulate susceptibility to COI bias. Utilitarians are selectively vulnerable when interests conflict with task demands, whereas deontologists appear more resistant. These preliminary findings suggest that ethical frameworks may warrant consideration in professional contexts, although replication with larger samples is essential.

Keywords*:* Conflict of Interest, Utilitarianism, Deontology, Cognitive Bias, Neuropsychological Rehabilitation

1. Introduction

An individual's ethical perspectives can shape their moral understanding and decisions (Brady & Wheeler, 1996; Reynolds, 2006). Ethical perspectives can be broadly classified into different frameworks, with one basic and widely used classification being the dichotomy of utilitarianism and deontology (Körner & Deutsch, 2023). Utilitarianism holds that the best action is the one that maximizes overall benefit, producing the greatest happiness or well-being for those affected while causing the least harm. This approach is rooted in consequentialism, which judges the goodness or badness of an action solely by its outcomes. In contrast, deontology maintains that the rightness of an action depends on whether it conforms to moral rules, regardless of the consequences (Rachels & Rachels, 1986). Although some theories try to reconcile these two approaches (Laakasuo & Sundvall, 2016), they are often described as fundamentally opposed (Conway & Gawronski, 2013). According to this latter view, the two ethical approaches operate independently rather than on a single continuum. Consequently, individuals with different ethical perspectives may pursue different goals; for example, utilitarian decisions tend to prioritize societal welfare, whereas deontological decisions emphasize individual rights. Balancing these approaches is essential for effective coordination in clinical fields (Mandal et al., 2016).

While ethical perspectives have been extensively studied in general, their specific application to conflict-of-interest (COI) situations remains underexplored, especially in clinical research (Knerr & D'Amelia, 2020; Toro, 2023). This gap is critical because COIs are widespread in medical and rehabilitation research and practice and can significantly affect both research outcomes and patient care (Fontanarosa & Bauchner, 2017). COIs among researchers can manifest as biased trial designs, selective reporting of results, or undue influence of funding sources on conclusions (Lundh et al., 2020). For example, clinical practice guidelines (CPGs), which are meant to support evidence-based medicine, have proven vulnerable to COIs. Studies show that a majority of authors of pharmaceutical-related CPGs in Japan received payments from drug companies during guideline development. One result has been the inclusion of expensive drugs, contributing to rising healthcare costs in recent years (Murayama & Senoo, 2024).

In neuropsychological rehabilitation—a field focused on improving cognitive, emotional, and social functioning in people with brain injury or neurological disorders through methods and techniques that are often highly dependent on commercial technologies—the intersection of ethical perspectives and COI is predictable (Bush et al., 2025). As in other clinical areas, ethical dilemmas commonly arise around resource allocation, treatment intensity, and the balance between patient autonomy and beneficence (Mayo et al., 2019; Playford et al., 2015). For instance, a clinician's ethical framework can subtly shape goal-setting: a utilitarian approach may favor goals that maximize overall system efficiency (e.g., quicker discharge), while a deontological approach prioritizes the patient's right to self-determination and individualized care, even if less resource-efficient (Levack, 2009). Moreover, cognitive biases, including the subconscious effects of COI, can impair the objectivity of neuropsychological assessments and rehabilitation planning (Satya-Murti & Lockhart, 2015). This underscores the importance of understanding how ethical perspectives influence subconscious bias.

In this context, an individual's ethical perspective can significantly affect their decisions in COI situations (Lytton & McAllister, 2014; Moore et al., 2006, 2010). Recent research shows that COIs not only increase the risk of immoral behavior but also subconsciously distort perceptions, producing what is termed "COI bias." This bias appears in several forms: systematic errors in observing and recording data; selective attention to certain evidence or theories; and biased decision-making when multiple scientific theories are equally supported by the evidence—a situation known as the underdetermination of scientific theories (Kafaee et al., 2021).

Evidence indicates that people with different ethical perspectives behave differently in COI situations. For example, utilitarian reasoning in such scenarios has been linked to a higher likelihood of immoral choices (Quiambao, 2022). Despite these insights, whether ethical perspectives can modulate COI bias itself remains unexamined. This gap is especially critical in clinical research and practice, where COI-influenced decisions directly affect public health, policy, and treatment development (Lundh et al., 2018). Physicians, for instance, often face COIs from interactions with pharmaceutical companies, and meta-analyses confirm that industry ties can alter prescribing patterns and care quality (Brax et al., 2017). Surveys also reveal that medical students frequently engage with pharmaceutical companies yet feel inadequately prepared by their training to handle such interactions (Weißkircher et al., 2017). Effectively managing COIs is therefore vital for maintaining public trust and credibility in the field (Daungsupawong & Wiwanitkit, 2024).

Given that COI can subconsciously bias perception and that ethical perspectives shape decision-making, the present study investigates how these two factors interact to influence perception and behavior. It seeks to provide preliminary evidence on this interplay and, in light of the critical role of COI and emerging ethical challenges in neuropsychological rehabilitation, discusses the unified implications of these findings for both clinical research and neuropsychological rehabilitation practice.

2. Method

Study design

The present study reports a secondary analysis of the same behavioral dataset previously described in Kafaee et al. (2021). While that earlier publication focused on overall COI effects across all participants, the current analysis specifically examines whether individual differences in ethical perspectives (utilitarianism vs. deontology) moderate those effects. This secondary analytical approach is stated here for full transparency. This study employed a between-subjects design with three experimental conditions: COI, alignment of interest (AOI), and neutral. The dependent variables were response accuracy and reaction time. Participants were divided into groups based on their ethical perspectives (utilitarian or deontologist), and the effects of these perspectives on performance were measured in each condition. In each group, they were randomly assigned to the three experimental conditions.

Participants

A total of twenty-eight male adults (Age range: 19-48; M = 28.14; SD = 7.43) were recruited from the general population using a convenience sampling method. The sample size was determined based on feasibility and in alignment with the main paper (Kafaee et al., 2021), which detected significant effects with comparable group sizes. All participants were screened for health status using the General Health Questionnaire (GHQ-28). After screening, participants were randomly assigned to one of the three conditions (COI, n = 9; AOI, n = 9; neutral, n = 10). All participants had normal or corrected-to-normal vision and no reported cognitive impairments.

Ethical compliance

All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the World Medical Association Declaration of Helsinki. Informed consent was obtained from all participants, providing clear and comprehensive information about the study's purpose, procedures, and potential risks. Consent forms were written in simple and understandable language, ensuring that participants were fully aware of their rights, including the right to withdraw at any time without any consequences.

Instruments

The General Health Questionnaire-28 (GHQ-28), a widely used self-report tool, was utilized to screen participants for potential psychological difficulties (Goldberg & Hillier, 1979; Nourbala et al., 2009). This 28-item measure evaluates four dimensions of well-being: somatic symptoms, anxiety/insomnia, social dysfunction, and severe depression. Participants rated their recent experiences on a scale ranging from "better than usual" to "much worse than usual." Only individuals meeting the general health criteria, as determined by the GHQ-28, were included in the study.

To categorize participants' ethical perspectives, we administered the Survey of Ethical Theoretic Aptitudes (SETA) (Brady, 1990). The SETA, a 15-item questionnaire, distinguishes between utilitarian and deontologist viewpoints by presenting incomplete ethical statements that respondents complete based on either consequentialist or intrinsic values. Previous psychometric evaluations of the SETA have demonstrated acceptable internal consistency (α = 0.78) and satisfactory construct validity (CVR > 0.78) (Kafaee et al., 2023).

Stimuli and Apparatus

The experimental task was generated using PsychoPy v.3, a platform for designing and running behavioral experiments (Peirce et al., 2019). Visual stimuli were displayed on a 17-inch Windows-based laptop screen, viewed from a distance of 60 cm. The stimuli consisted of 14 unique images, each composed of three adjacent rectangles with distinct texture patterns. The stimuli were paired with others that were similar but differed by a single texture feature. Seven clusters of these paired stimuli were shown in randomized sequences, resulting in a total of 28 trials.

The task used a two-alternative forced choice method, where participants had to choose the correct stimulus from two options. Each trial included a forward and backward mask—visual clutter presented before and after the target stimuli—to prevent conscious processing of the images, in line with the visual masking paradigm, which is commonly used to study subconscious processes.

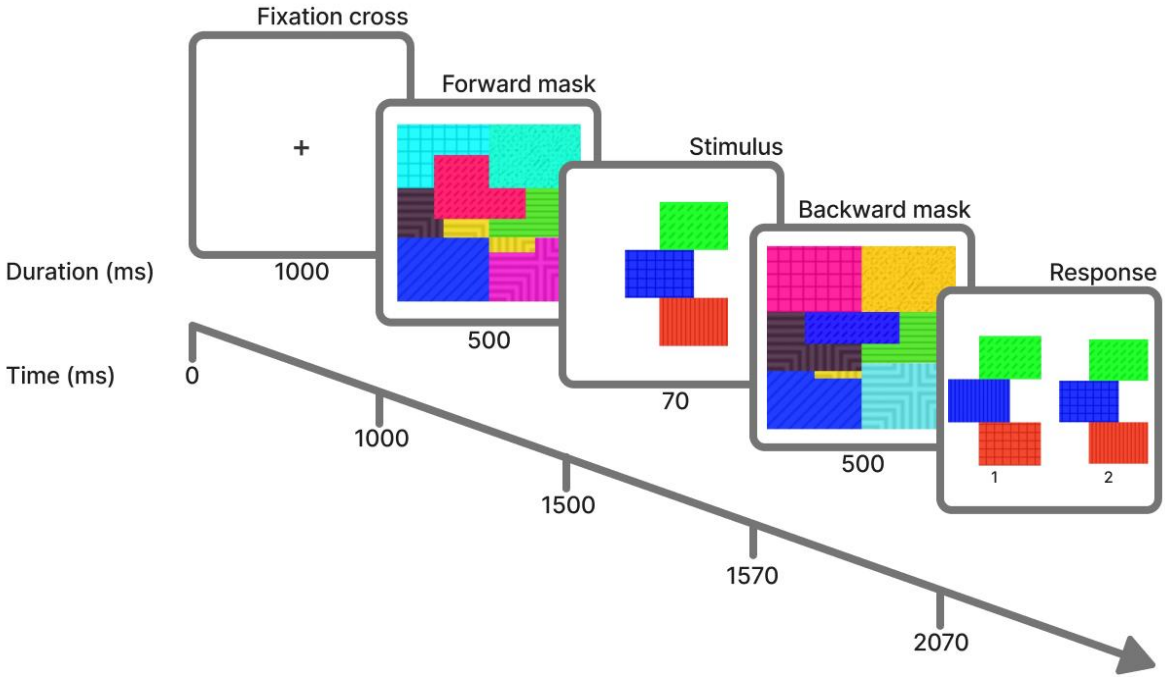
Procedure

Participants were first screened using the GHQ-28 to ensure general health. Afterward, their ethical perspectives were assessed using the SETA. Participants were then randomly assigned to one of the three experimental conditions: conflict of interest (COI), alignment of interest (AOI), or neutral.

In the COI condition, participants were told that higher accuracy would indicate a lower IQ compared to their peers, creating a negative reinforcement scenario. In the AOI condition, participants were informed that better accuracy would indicate a higher IQ, creating a positive reinforcement. The neutral condition involved no additional motivational framing. This paradigm operationalizes COI as a conflict between task-relevant goals (accurate stimulus discrimination) and task-irrelevant personal motives (negative or positive self-evaluation about IQ). Although this is a controlled laboratory analogue rather than an ecologically valid COI, it isolates the core cognitive component of such conflicts—namely, the unconscious biasing of perceptual decisions when interests diverge from objective task demands. This approach is consistent with established experimental frameworks in COI research (Moore et al., 2010; Kafaee et al., 2021) and provides a tractable model for studying the underlying cognitive mechanisms before extending findings to more complex real-world settings.

Each trial followed a standard structure: a fixation point (1000 ms), a forward mask (500 ms), the target stimulus (70 ms), a backward mask (500 ms), and two response choices. Participants had to choose between two similar stimuli by pressing the corresponding key (“1” or “2”). Accuracy and reaction time were recorded for each trial. At the end, the response accuracy and reaction time of individuals from the two ethical perspectives were compared across the three conditions of interest (Figure 1).

Figure 1 *Schematic illustration of a single trial of the task. Each trial begins with a fixation point (1000 ms), followed by a stimulus (70 ms) flanked by two noisy patterns, one before and one after (500 ms each). Images are not drawn to scale.*



3. Results

Statistical analysis was performed using R software. Due to the small sample size of each group, nonparametric tests were used to analyze the data. Based on the SETA, individuals were divided into two groups of ethical perspectives (Table 1). Afterwards, a comparison was made between different ethical perspectives within each condition of interest. Independent-Samples Mann-Whitney U tests (Fay & Proschan, 2010) were used to examine whether ethical perspectives can be related to performance (accuracy) and reaction time within different conditions of the task.

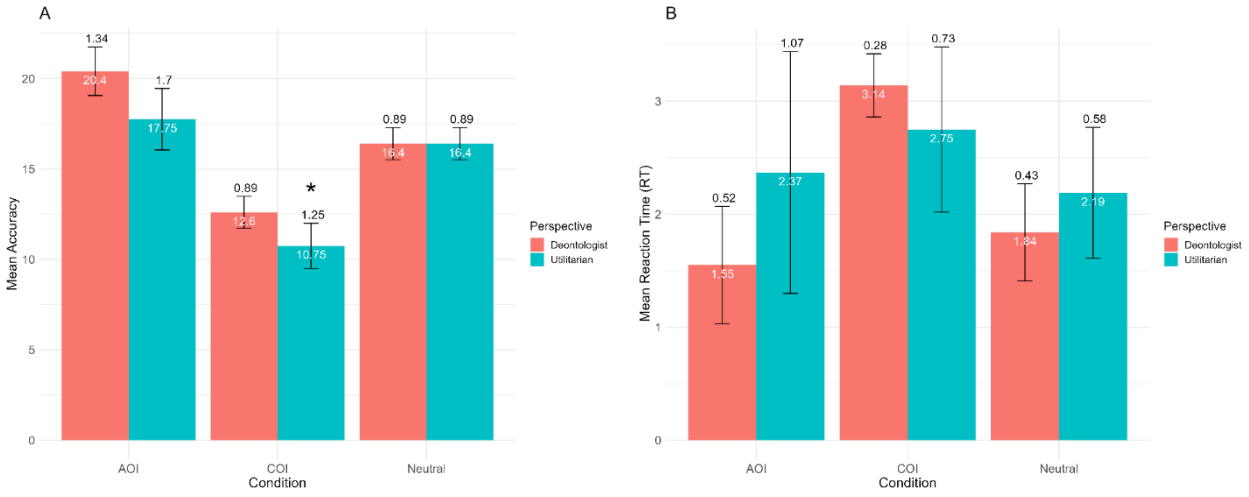
Table 1. *Descriptive statistics of the samples*

Variable	Condition	Utilitarian			Deontologist		
		N	*M*	*SD*	*N*	*M*	*SD*
Accuracy	COI	4	10.75	1.25	5	12.60	.89
	Neutral	5	16.40	.89	5	16.40	.89
	AOI	4	17.75	1.70	5	20.40	1.34

	COI	4	2.75	.73	5	3.14	.28
RT	Neutral	5	2.19	.58	5	1.84	.43
	AOI	4	2.37	1.07	5	1.55	.52

According to figure 2 A, individuals with utilitarian and deontologist ethical perspectives performed differently only under the condition of COI (Mann-Whitney U = 1.53, p = 0.03). However, there were no significant differences between the two groups under the AOI or neutral conditions (p > 0.05). Additionally, there were no reaction time differences between the groups of ethical perspectives within different conditions of interest (Figure 2 B; p > 0.05).

Figure 2. *Comparison of accuracy (A) and reaction time (B) in conditions of interest between ethical perspectives using Independent-Samples Mann-Whitney U tests.*



4. Discussion

The present study examined whether ethical perspectives—utilitarianism or deontology—influence COI bias. The results showed that utilitarians and deontologists performed differently under COI conditions, with utilitarians displaying significantly lower accuracy than deontologists. This finding supports the idea that utilitarians, who focus on outcomes, may experience greater cognitive conflict when personal interests clash with task demands, making them more susceptible to COI bias. Deontologists, guided by rule-based ethics, were less affected, indicating

that their decision-making remains more stable in such situations. Notably, this accuracy gap disappeared in the alignment-of-interest (AOI) or neutral conditions, where both groups performed equally well. This pattern indicates that ethical perspectives affect performance only when interests conflict with the task, highlighting a specific vulnerability for utilitarians in true COI scenarios. Reaction times, however, showed no significant differences between utilitarians and deontologists across all conditions, meaning ethical perspective affected the quality but not the speed of performance. Additionally, because the present data come from the same dataset as Kafaee et al. (2021) but were analyzed separately by ethical perspective, the observed patterns of change across conditions replicate the earlier findings.

These results are consistent with previous evidence that ethical perspectives shape behavior in COI situations, including evidence that utilitarian reasoning can increase the likelihood of immoral choices (Quiambao, 2022). Recognizing an individual's dominant ethical perspective can therefore help predict how they will perform in tasks involving conflicts of interest (Lytton & McAllister, 2014; Moore et al., 2006, 2010).

The findings carry important implications for medical research and clinical practice, where COIs are widespread and can compromise research integrity and patient care (Fontanarosa & Bauchner, 2017). The greater susceptibility of utilitarians to COI bias may explain real-world phenomena such as biased trial designs, selective reporting, or undue influence of funding sources on conclusions (Lundh et al., 2020). Utilitarians, who seek to maximize overall benefit, may unconsciously justify decisions that serve secondary interests if they believe those decisions ultimately lead to a greater good, even when they undermine the immediate task.

The results are especially relevant to clinical neuropsychology and rehabilitation. Neuropsychologists routinely make high-stakes decisions about capacity for independent living, return to work, or allocation of limited rehabilitation resources (Mayo et al., 2019). In these contexts, a clinician's ethical perspective and vulnerability to COI bias can directly influence patient outcomes. For example, a utilitarian-leaning clinician facing subtle institutional or financial pressures might favor a cheaper, standardized program over a more expensive but individualized one, particularly if the former aligns with a system in which they have an interest (Levack, 2009). A deontologist, by contrast, may be better protected against such pressures by a stronger commitment to patient rights and duties—consistent with our finding of lower COI susceptibility in this group.

This study has implications for decision-making integrity in neuropsychological rehabilitation and clinical research. A practical consequence is the need for more targeted ethics training that goes beyond reviewing codes of conduct. Training should encourage self-awareness of one's primary ethical lens and teach specific strategies to counteract cognitive biases (Satya-Murti & Lockhart, 2015). Recognizing how one's ethical perspective can amplify COI bias is an essential

first step toward preserving objectivity in assessment, research integrity, and rehabilitation quality (Playford et al., 2015). Future studies should test whether explicit training in ethical self-awareness and bias-mitigation techniques can reduce COI effects in real-world clinical and research settings, ultimately improving patient care and scientific trustworthiness across medical and neuropsychological domains.

The significant limitation of this study is its small group sizes. This restricts the reliability and stability of the observed estimates and consequently, the present results should be interpreted as preliminary and hypothesis-generating rather than confirmatory. Independent replications with adequately powered samples are essential before any firm conclusions can be drawn. Furthermore, the sample comprised exclusively male adults (due to not having access to female participants), which limits the generalizability of the findings. Gender-related differences in moral reasoning and cognitive bias susceptibility have been reported in the literature, and the present results may not fully capture the interplay between ethical perspectives and COI bias across genders.

5. Conclusion

In conclusion, the present study provides preliminary evidence that an individual's dominant ethical perspective can shape susceptibility to conflict-of-interest bias, with utilitarians demonstrating greater cognitive vulnerability than deontologists in true COI conditions. This selective impairment in accuracy—absent in neutral or aligned-interest situations—reveals that utilitarian reasoning, while valuable for outcome maximization, creates a specific liability when personal or secondary interests' conflict with professional demands. These findings illuminate a previously under-recognized mechanism through which COI undermines objectivity in high-stakes domains, including clinical research and practice. Ultimately, ethical perspective functions as a critical, yet largely overlooked, moderator of cognitive bias in professional judgment, with direct consequences for scientific integrity, clinical outcomes, and patient welfare.

Data Availability and Supplementary Data

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

Brady, F. N. (1990). Ethical managing: rules and results. In *New Delhi Sage Response*. Macmillan.

Brady, F. N., & Wheeler, G. E. (1996). An empirical study of ethical predispositions. *Journal of Business Ethics*, *15*(9), 927–940. https://doi.org/10.1007/BF00705573

Brax, H., Fadlallah, R., Al-Khaled, L., Kahale, L. A., Nas, H., El-Jardali, F., & Akl, E. A. (2017). Association between physicians' interaction with pharmaceutical companies and their clinical practices: a systematic review and meta-analysis. *PloS one*, *12*(4), e0175493. https://doi.org/10.1371/journal.pone.0175493

Bush, S. S., Dutt, A., Fernández, A. L., Łojek, E., McDonald, S., & Schrieff-Brown, L. (2025). Ethical issues in clinical neuropsychology: International diversity perspectives. *Applied Neuropsychology: Adult*, *32*(5), 1377-1393. https://doi.org/10.1080/23279095.2023.2278153

Conway, P., & Gawronski, B. (2013). Deontological and utilitarian inclinations in moral decision making: A process dissociation approach. *Journal of Personality and Social Psychology*, *104*(2), 216–235. https://doi.org/10.1037/a0031021

Daungsupawong, H., & Wiwanitkit, V. (2024). Conflict of interest in clinical surgery: contemporary concern in digital era. Formosan Journal of Surgery, 10-1097. https://doi.org/10.1097/FS9.0000000000000174

Fontanarosa, P., & Bauchner, H. (2017). Conflict of interest and medical journals. *JAMA*, *317*(17), 1768-1771. https://doi.org/10.4103/0975-1483.63143

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. In *Psychological Medicine* (Vol. 9). https://doi.org/10.1017/s0033291700021644

Kafaee, M., Kheirkhah, M., Mokarami, M., Balali, R., & Gharibzadeh, S. (2023). Factorial Analysis and Psychometric Properties of Ethical Perspectives Questionnaire (Utilitarianism-Deontology). *Ethics in Science and Technology,* 18(3), 102-107.

Kafaee, M., Kheirkhah, M. T., Balali, R., & Gharibzadeh, S. (2022). Conflict of interest as a cognitive bias. *Accountability in Research,* 29(6), 379-396. https://doi.org/10.1080/08989621.2021.1938556

Knerr, P., & D'Amelia, R. P. (2020). Introduction to the Ethics of Scientific Conflict of Interest (COI). *Committee on Ethics, American Chemical Society. Ethics Committee Monograph*.

Körner, A., & Deutsch, R. (2023). Deontology and utilitarianism in real life: A set of moral dilemmas based on historic events. *Personality and Social Psychology Bulletin*, *49*(10), 1511-1528. https://doi.org/10.1177/01461672221103058

Laakasuo, M., & Sundvall, J. (2016). Are Utilitarian/Deontological Preferences Unidimensional? *Frontiers in Psychology*, *7*(AUG). https://doi.org/10.3389/fpsyg.2016.01228

Levack, W. M. (2009). Ethics in goal planning for rehabilitation: a utilitarian perspective. *Clinical Rehabilitation*, *23*(4), 345-351. https://doi.org/10.1177/0269215509103286

Lundh, A., Boutron, I., Stewart, L., & Hróbjartsson, A. (2020). What to do with a clinical trial with

conflicts of interest. *BMJ evidence-based medicine*, *25*(5), 157-158. https://doi.org/10.1136/bmjebm-2019-111230

Lundh, A., Lexchin, J., Mintzes, B., Schroll, J. B., & Bero, L. (2018). Industry sponsorship and research outcome: systematic review with meta-analysis. *Intensive care medicine*, *44*, 1603-1612. https://doi.org/10.1007/s00134-018-5293-7

Lytton, T. D., & McAllister, L. K. (2014). Oversight in private food safety auditing: Addressing auditor conflict of interest. *Wisconsin Law Review*, *2014*(2).

Mandal, J., Ponnambath, D. K., & Parija, S. C. (2016). Utilitarian and deontological ethics in medicine. *Tropical parasitology,* 6(1), 5-7. https://doi.org/10.4103/2229-5070.175024

Mayo, C. D., Scarapicchia, V., Robinson, L. K., & Gawryluk, J. R. (2019). Neuropsychological assessment of traumatic brain injury: Current ethical challenges and recommendations for future practice. *Applied Neuropsychology: Adult*. https://doi.org/10.1080/23279095.2017.1416472

Moore, D. A., Tanlu, L., & Bazerman, M. H. (2010). Conflict of interest and the intrusion of bias. *Judgment and Decision Making*, *5*(1), 37. https://doi.org/10.1017/S1930297500002023

Moore, D. A., Tetlock, P. E., Tanlu, L., & Bazerman, M. H. (2006). Conflicts of interest and the case of auditor independence: Moral seduction and strategic issue cycling. In *Academy of Management Review* (Vol. 31, Issue 1, pp. 10–29). Academy of Management. https://doi.org/10.5465/AMR.2006.19379621

Murayama, A., & Senoo, Y. (2024). Financial conflicts of interest among authors of clinical practice guideline for headache disorders in Japan. *BMC Medical Ethics,* 25(1), 121. https://doi.org/10.1186/s12910-024-01126-9

Nourbala, A. A., Bagheri Yazdi, S. A., & Mohammad, K. (2009). The validation of general health questionnaire-28 as a psychiatric screening tool. *Hakim Research Journal*, *11*(4), 47–53.

Peirce, J., Gray, J. R., Simpson, S., MacAskill, M., Höchenberger, R., Sogo, H., Kastman, E., & Lindeløv, J. K. (2019). PsychoPy2: Experiments in behavior made easy. *Behavior Research Methods*, *51*(1), 195–203. https://doi.org/10.3758/s13428-018-01193-y

Playford, R. C., Roberts, T., & Playford, E. D. (2015). Deontological and utilitarian ethics: a brief introduction in the context of disorders of consciousness. *Disability and rehabilitation*, *37*(21), 2006-2011. https://doi.org/10.3109/09638288.2014.989337

Quiambao, J. E. A. (2022). Thinking ethically: The utilitarianism approach in moral decision making. *International Journal of Multidisciplinary Research and Growth Evaluation*, 602–604. https://doi.org/10.54660/anfo.2022.3.3.30

Rachels, J., & Rachels, S. (1986). *The elements of moral philosophy*. Philadelphia: Temple University Press.

Reynolds, S. J. (2006). Moral awareness and ethical predispositions: Investigating the role of

individual differences in the recognition of moral issues. *Journal of Applied Psychology*, *91*(1), 233–243. https://doi.org/10.1037/0021-9010.91.1.233

Satya-Murti, S., & Lockhart, J. (2015). Recognizing and reducing cognitive bias in clinical and forensic neurology. *Neurology: Clinical Practice*, *5*(5), 389-396. https://doi.org/10.1212/CPJ.0000000000000181

Toro, S. (2023). Ethics of Clinical Research, Publications, and Conflict of Interest. In *Introduction to Clinical Ethics: Perspectives from a Physician Bioethicist* (pp. 55-78). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-30804-8_3

Weißkircher, J., Koch, C., Dreimüller, N., & Lieb, K. (2017). Conflicts of interest in medicine. A systematic review of published and scientifically evaluated curricula. GMS Journal for Medical Education, https://doi.org/34(3). 10.3205/zma001114