INVITED REVIEW

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HARKing can be good for science: Why, when, and how c/should we Hypothesizing After Results are Known or Proposing research questions After Results are Known

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Abstract

This *provocation* challenges the current view that practicing HARKing (Hypothesizing After Results are Known) must be avoided under all circumstances. I explain why and under which circumstances scholars may be allowed, even encouraged, to follow this practice. I use the extant literature and specific cases to show how HARKing can help generate new and worthy knowledge, and why an outright ban on HARKing is wrong for the field of social sciences—and, particularly, for business and management studies. The argument expands the phenomenon to PARKing too (Proposing research questions After Results are Known). The implications for knowledge creation are critical because this practice could hinder research and might defy logic. This *provocation* is intended as a thought-provoking exercise, hopefully leading to changes in the approach and mindset of scholars. HARKing could offer a major added value to the field as it helps to develop knowledge that, so far, has been blocked by attempts to ban HARKing, and thereby may help open new avenues for knowledge creation.

Abbreviation: HRM, human resource management.

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1 | INTRODUCTION

In this *provocation* I argue that sometimes it is appropriate, even desirable, to practice HARKing (Hypothesizing After Results are Known (HARK)), or to employ different ways of hypothesizing, thereby avoiding the issue of HARKing. I further explain why and under which circumstances scholars may be allowed to, even encouraged, to follow this practice.

HARKing occurs where authors write, re-write, or revise their hypotheses after they have the results (Kerr, 1998). This may be the case indeed, otherwise there would be no calls to ban HARKing (e.g., Bosco et al., 2016; Murphy & Aguinis, 2019). The original hypotheses were developed, either in line with the extant theory and literature, or to challenge it, deviate from it, or suggest re-thinking it, to name a few options. This is employed to predict anticipated findings, but as the results contradict the expectation, the authors change their original set of hypotheses to fit the actual findings. They do so by amending or adjusting the original hypotheses, deleting some hypotheses, or adding new ones. This means that, by HARKing, scholars are concealing the truth—which may be considered engaging in a lie. In this way, the edited manuscript presents findings that support the re-written hypotheses, apparently as anticipated according to the literature. In extreme cases, HARKing may also take place when the authors do not develop any hypotheses until they have the results, following which they then develop a set of hypotheses that will each gain support from the (now known) results. A related type of HARKing is failing to report hypotheses that were rejected, either because no relationships were identified, or worse, if the relationships identified are in the opposite direction to those posited by the hypotheses.

This practice is evidenced by the phenomenon of publication bias where insignificant results are significantly less likely to be published (Doucouliagos, 2005; Homberg & Bui, 2013). A number of scholars are concerned with the evidence that researchers are increasingly engaging in HARKing rather than a priori theory testing, and this practice is largely a condemned phenomenon (Andrade, 2021; Bedeian et al., 2010; Bridges, 2022; Byington & Felps, 2017; Kerr, 1998). Although HARKing is very widespread (Cortina, 2016; Shoaib & Baruch, 2019), it is considered under-reported, destructive, and harmful for scientic enquiry (Bergkvist, 2020; Lishner, 2021; Mohseni, 2020; Rubin, 2017, 2020) as well as damaging for the credibility of both individual scholars and the whole field of management science (Byington & Felps, 2017) and beyond. Another type of system intervention is passive HARKing that can occur where editors, reviewers, and pre-submission informal friendly reviewers suggest including new hypotheses or changing others so that they are supported rather than rejected (Rubin, 2017). Thus, HARKing is considered as an unacceptable and unethical practice that, in principle, should be avoided in the scientific realm. It stands against academic logic, integrity and ethical guidelines. The above arguments are valid for both the specific field of Human Resource Management (HRM) and the general field of management and organizational studies.

The trustworthiness of the practice is a major concern (Mazzola & Deuling, 2013), as is the lack of the predictability power of those publications that employed HARKing (Hollenbeck & Wright, 2017), although Hollenbeck and Wright (2017) did not suggest that HARKing is a fallacy. Comparing it to 'cherry-picking', Murphy and Aguinis (2019) identify how meta-analyses can be influenced when data are 'picked' for the convenience of supporting certain preferred directions. They rightfully warned against "question trolling" which is a line that should not be crossed. 'Cherry-picking' occurs when supported hypotheses are more emphasized in the presentation (Bosco et al., 2016). HARKing might also induce a high rate of false positives (Mayer, 2019). Overall, the current reported consensus is that HARKing is wrong and should be avoided, but reality and logical sense-making suggest it is widespread.

So far I only referred to hypotheses as presented in quantitative studies employing the positivist approach. A comparable case can take place in qualitative work, employing the interpretivist approach. While qualitative papers do not offer a development of hypotheses, they do start with research question(s) and defining the aims. Similarly, as

in HARKing, authors may decide to amend their research questions, add new ones, or re-define their aims once their data open avenues to provide answers to different questions or point toward different directions, which were not anticipated a priori. Proposing different or amended research questions or aims may be labeled PARKing (Proposing After Results are Known). It should be noted that while most positivist studies are quantitative and most interpretivist studies are qualitative, this is not always the case.

Why do scholars succumb to such (mis)behavior? Do they possibly consider it a necessary evil? Do they use other justifications to conceal this practice? Academic writing convention expects that the Introduction and Results sections need to be consistent with one another. Cortina (2016) argues that journal standards are largely to blame for this movement toward apparent distortion and "unscientific use of theory". It is also the scholarly community that looks to find positive outcomes—i.e., support for anticipated outcomes.

2 | THE ARGUMENT

In this *provocation* I argue *FOR* the use of HARKing, but only under certain circumstances, pointing out under what (limited) conditions HARKing may be acceptable and even encouraged. In principle, normally, HARKing (and PARKing) should be considered as an unacceptable and unethical practice and should be avoided in academic writing. The reasons for that are ethical and because it contradicts a significant principle of positivism. Ethics is a discipline that deals with moral values, decisions, and behaviors, and HARKing per se is comparable to cheating, pretending that the hypotheses were conceived beforehand. Thus, I wish to state right from the start: *I am absolutely against the idea that one should run an analysis, see what the results are, and then develop a set of hypotheses to match the findings*. This would be an opportunistic HARKing, unethical and lack of integrity, opposite to the concept of positivism. Metaphorically it resembles a case where an archer shoots arrows, then runs to draw the target mark around where the arrows have hit. It is against the concept of competition. Yet, academic inquiry is not 'competition' and 'hitting the target'. It is about progressing knowledge creation and development.

Life, in particular academic life, is not a sports competition, and the role of science is more important—it is to develop and create new knowledge. Taking a positivist philosophical stand, scholarship aims to reveal the truth (Cacioppo et al., 2004). An interpretivist equivalent is the need to faithfully represent the participants' opinions and be transparent about the interpretation process. Competition can be serious, but may take different forms; for example, who creates a particular new knowledge first. Science is about creating new knowledge, making discoveries—not necessarily following simple basic logic of linear predictions based on existing theories. Back to the archer metaphor, if the archer is actually a hunter that shoots an arrow into the bushes, thinking there might be a target there, and hits their assumed target, no one should care—the aim of finding food is achieved. From the scientific realism perspective, our 'aim' as scientists is to reveal the truth (Cacioppo et al., 2004), to generate and test theories, and to establish knowledge that is valid and reliable.

HARKing would not be an issue if we dispensed with the publication convention that the Introduction and Results sections must be consistent with one another. The assumption is that, if the author develops certain logic which leads to certain hypotheses based on specific literature, the data and analysis will be limited to examine these and only this line of inquiry. Yet, if scholars follow the strict rule of avoiding HARKing, certain avenues for new knowledge creation are blocked. Further, researchers who strictly play by the rules are at a competitive disadvantage (John et al., 2012) because they miss—or have to relinquish—opportunities to generate unpredictable findings. Serendipity is a prevalent factor in the search for truth and for new knowledge.

Two examples: First, the scholar believes that they covered the extant literature in their search to develop certain hypotheses, but the editors, reviewers, and pre-submission informal friendly reviewers identify different literature or different logics. Those new theoretical perspectives may suggest avenues for developing different or alternative hypotheses. While this may not be taken as HARKing, as the results for the new hypothesis specific additional hypotheses were not known. However, this hypothesis was added after the results were known, and would not be

there otherwise, thus it can be taken as HARKing nevertheless. Second, in many cases, arguments can be put forward for conflicting anticipated relationships (Johns, 2021); namely, one argument suggests a positive relationship and an alternative argument suggests a negative relationship between variables. In some cases, both arguments are valid for different ranges of the variables, which may lead to the identification of U-shape or inverted U-shape relationships between those variables.

What can the scholar do? Under the current 'system', it is expected that they will opt for a single line of argument and will follow the literature that suggests or supports that direction. If the results support it, great. If not—for example, there is no relationship, or the opposite of the anticipated direction occurs—then the scholar must indicate that the hypothesis was rejected. This is highly problematic because having non-supporting findings significantly reduces the chance of publication. Moreover, unsupported hypotheses can be just as relevant and as interesting as supported ones. Because researchers and reviewers are not happy to accommodate such reports, it is tempting, then, to revise the hypothesis development, opting for the theory that leads to supporting the findings. Yet, this is then HARKing.

I argue that, first, the 'system' and rigid norms practically force scholars to HARK if they wish to be true to their main aim of knowledge discovery, whereas a simple change in our professional conduct would prevent the need to do so. As one reviewer of this manuscript suggested: when the lower ranking goal of not HARKing and the higher goal of creating new knowledge collide, it makes sense for the higher goal to be followed. One option is to present two different arguments, possibly leading to conflicting hypotheses, each suggesting different anticipated outcomes (hypotheses). The hypothesis that is supported would be validated, and the other one rejected.

Even more controversially, I argue that on certain occasions, offering hypotheses after the data and analysis were conducted is the right thing to do. Why? If a scholar analyzes a dataset, then realizes that s/he missed the significant possibility that a variable that was not anticipated to influence the outcome is actually relevant and important, should they give up the option to test its impact? One may question why the variable was measured if it was not considered relevant. This can be when scholars aim to test a concise model, but nevertheless collect more data (which is an ethical issue too). Further, when quantitative inquiry identifies unpredicted outcomes, even anomalies, this may be an impetus for generating new theoretical formulations, that can be labeled as "quantitative discovery" (Bamberger & Ang, 2016). This may also be the case when using secondary datasets, or when testing for common method bias. In the case of qualitative work, the authors may realize that the data collected offer answers to research question(s) they did not think of a priori, leading to qualitative discovery. In qualitative research design, this can be seen when scholars allow for 'emergent themes' to emerge (Saunders et al., 2023). It can also be that findings that represent one group of the population are different from those representing another group. In such a case, the researcher would be able to identify this worthy addition to the research design only after collecting data from such different populations, after the results from the first group were known (Bhaskar et al., 2022). Similarly, case studies and other interpretivist research (Lee & Cassell, 2013; Lee & Saunders, 2017) can offer better knowledge creation if not limited to rigid dogmas.

The same could be the case if a variable acts in a way that contradicts certain existing assumptions. It can be that a variable that seems irrelevant at the start of the study or an experiment may actually be a strong additional antecedent, mediator, or moderator. It may also be that informal friendly reviewers or even editors and reviewers point out different literature and logics that suggest alternative hypotheses. The scholars may then go back to the literature, start re-reading, and realize that indeed there is a base for predicting such an impact. What then? Ideally, scholars will conduct a rigorous and complete literature search before running the study, but no literature review can cover all the available literature; for example, for many variables and theories, there are hundreds of thousands of possible relevant references.

In the following section I present examples and cases to illustrate and manifest such scenarios, and clearly indicate different ways in which HARKing (and PARKing) might occur. The first three are specific examples of scenarios whereas the others are more general cases. For each case I present the issue or conundrum, and then suggest a route *from a problem to a solution*. These solutions manifest how HARKing and PARKing can be useful and even critical in the search for new valid, reliable, and worthy knowledge, revealing reality and truth (Cacioppo et al., 2004).

Case 1. Competing theories.

The literature is mixed about the relationship between variables X and Y. Theory A argues for a positive relationship whereas theory B argues for a negative relationship. A sensible approach would allow the researcher to suggest that there are two conflicting or contradicting anticipated directions, and suggest a dual hypothesis.

H 1a. X and Y are positively related.
H 1b. X and Y are negatively related.

Other sciences, like psychology, allow this type of null hypothesis testing. Yet, under current norms in business and management science and studies, this is not a desired option (see Honig et al., 2017). Although some exceptions exist for applying competing hypotheses (e.g. Allen et al., 2023), suggesting it is a risky approach. The author is expected to choose only one of the two possible hypotheses and then see if that hypothesis is supported or not. The options left for the researcher are:

Option one: Opt for a theoretical perspective that leads to one hypothesis. If the results support it, that would be an excellent outcome. If not, the author(s) need to reject the hypothesis, and explain possible reasons using the other theory. Choosing this option is more likely to end with a rejection of the manuscript.

Option two: Test the results, see which direction was supported, and use the theoretical perspective that supports or leads to the related hypothesis. This is anticipated to gain a much more enthusiastic response from reviewers. It is very tempting—and usually cannot be detected. Yet, this is HARKing in its worst form. I suspect that this option is widely applied but never admitted to, because, yes, HARKing is considered a 'sin', an inappropriate, unethical practice.

2.1 | From a problem to a solution

If authors are allowed to develop null hypotheses or even present conflicting hypotheses, then find out which of them is supported, that dilemma would be diffused. This option could be accepted if admitting HARKing, which, with proper explanation, would be acceptable in the field (HRM in particular, and general management and organizational studies). In fact, some journals are open to this option of presenting competing hypotheses—including *HRMJ*—see Ji et al. (2014), Wikhamn et al. (2021), or Yu and Cable. (2011).

Case 2. Missing a moderator.

A model is tested via a survey-based study, hypothesizing that increased hierarchy and responsibility lead to a higher career satisfaction. The outcomes suggest no significant relationship. The hypothesis is then rejected. Yet, the author(s) compare the results with previously published surveys with general managers where the relationships are positive. The researcher realizes that the specific sample for their survey was R&D engineers that became managers. Luckily, they also measured 'Need for Power'. When this variable is entered as a moderator, it emerges that, for managers with high need for power, the relationship is positive, but for those with low need for power, it is negative, supporting a moderation hypothesis. A follow-up qualitative study with the same target population discovers that many engineers who wish to improve their salary reluctantly opt for trying to progress on the managerial ladder.

Such results have led to the creation of dual career ladder for engineers to prevent the phenomenon that best engineers were transformed into worst managers due to lack of other options for advancement. The dual ladder offers them such an opportunity to thrive and develop successful careers (Allen & Katz, 1986). Because the aim of the science is to identify relevant knowledge, in this case, the author can add a new moderation hypothesis of 'Need for Power', leading to the discovery of new, relevant, and important knowledge. I consider such practice as *appropriate* HARKing because, alternatively, avoiding HARKing means that the researcher can either give up on the study,
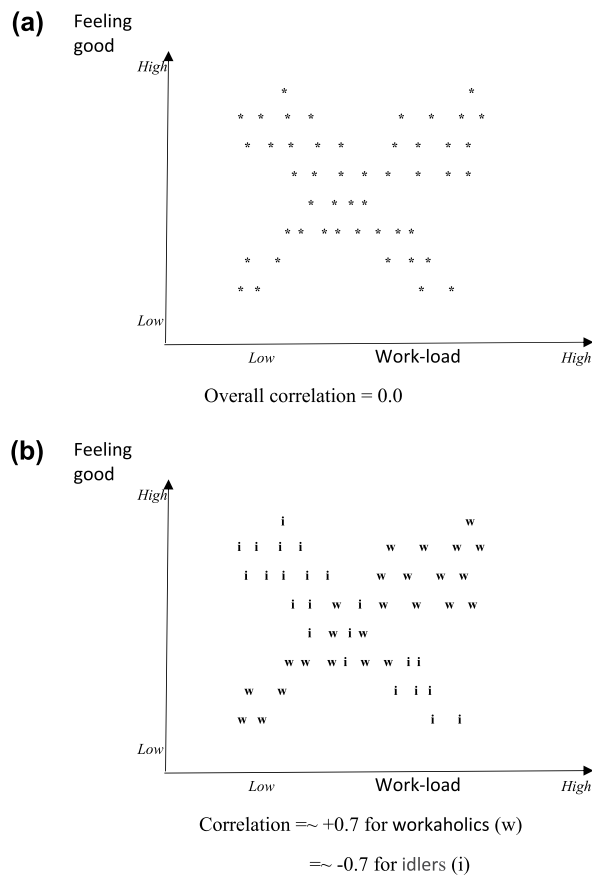
(a) Feeling good

Overall correlation = 0.0

(b) Feeling good

Correlation =∼ +0.7 for workaholics (w)

=∼ -0.7 for idlers (i)

FIGURE 1 (a) Relationship between work-load and happiness—general population. (b) Relationship between work-load and happiness—split by sub-populations.

or publish it with a rejection of their hypothesis—according to the 'rule', not adding new knowledge. Ideally scholars could be able to offer a 'post-analysis' hypothesis, but this is unlikely to be accepted by reviewers and editors.

This example reflects a more general case when the extant theory does not say much about the relationship between two variables, and no relationships are identified for the general populations (zero correlation). However, when the population is divided into two separate groups (e.g., males vs. females, locals vs. expatriates) then clear relationships, possibly in different directions, are identified for each sub-population. Figures 1a and 1b manifests this general case.

2.2 | From a problem to a solution

The acceptance of the ability to add post priori hypotheses—while indicating that it was added due to the new revelation—could diffuse this kind of dilemma. The author(s) simply need to indicate that a variable was added to the model, which moderates certain relationships.

Case 3. Interference of chance event.

A change in circumstances has caused unanticipated results, where HARKing was needed (but not allowed): A two-wave study was conducted to test the relationships between intention to quit (ITQ) and actual quit behavior. The

literature review was rigorous, and the hypothesis was strongly supported by extant literature, but the literature was largely restricted to a specific/narrowly defined group (e.g., managers and professionals). The added value anticipated of the new study was that it expanded the literature by examining blue collar employees. The research design was a two-wave data collection. The first wave was completed, including measures of ITQ. One year following the first wave, a major, life-changing natural disaster event took place (a major earthquake). The second wave data (testing actual quit behavior) were collected as planned, 2 years after the first wave (1 year after the earthquake). But, the results were not in line with the proposed hypotheses. The authors suggested adding a hypothesis (or call it a 'quasi' hypothesis) to argue that major natural disaster would change individual career plans. This was rejected by reviewers and editors. It was only published after several rejections, by a more sympathetic editor, with a suggested explanation in the discussion of results, that the natural disaster caused individuals to change their career plans (Baruch et al., 2016). COVID-19 is just one example of career-related chance event, others can also influence the results of multiple waves of data collection.

2.3 | From a problem to a solution

Like the second case, adding a new hypothesis—either simply a new hypothesis or a 'quasi' hypothesis is a more elegant way to indicate the added value of such studies. For transparency, the authors should honestly and openly report what was done rather than present a post-hoc rationalization (Aguinis et al., 2018). In fact, this solution was applied by attentive editors in the past, but is rare—see, for example, Habibi (2017).

Case 4. When a variable does not work as anticipated.

The literature suggests that variable C moderates the relationship between variables A and B, and the author(s) presents this hypothesis. While the data identify no moderation, the findings clearly suggest that C is actually an additional antecedent of B. The model is wrong, because it assumed moderation whereas the data-based analysis suggests that the variable is an antecedent, not a moderator. HARKing enables rectifying it, and generating a model that is then validated, helping to discover a new, worthy knowledge. Under the current norm of reporting, the authors have to say that the hypothesis regarding moderation was rejected. They cannot suggest a revised hypothesis that C is an antecedent because this would be HARKing. Reviewers may say that this could be a false positive and that the author should conduct a separate study and collect more data to then test C as an antecedent. The case can be opposite, too; namely, that a variable assumed to be an antecedent is identified as a moderator.

2.4 | From a problem to a solution

Like in the first example, the option to suggest alternative hypotheses or to revise—and openly explain the reasons— would not be considered inappropriate.

Case 5. No pre-conceived theoretical support.

Existing theories do not suggest any anticipated relationship, for example, when trying to understand a newly developed construct, or associating variables which came from different disciplines. The literature only covers variables that may or may not be associated with the newly developed construct; or that different literature suggests different types of relationships. There is no way to support a priori single impact in the form of hypotheses or research questions.

2.5 | From a problem to a solution

A 'tabula -rasa' option is where the author is openly admitting that this is a new and uncharted, under-studied area and, thus, it is not possible to offer clear and straightforward hypotheses as a solution to this scenario. Ideally the use of grounded theory and qualitative work can offer an even better way forward. Alternatively, it can be presented as quantitative discovery and exploration (Bamberger & Ang, 2016).

Case 6. Following new direction suggested by reviewers and editors.

The general case indicated earlier is when reviewers (or editors) point out different literature to the one found by the author(s), which can lead to alternative hypotheses. Such recommendations are made in good faith and in order to help authors reconsider, rethink, and try a different perspective that will reveal the true nature of cases or phenomena or relationships across variables. It may lead to the refining of a model so that the revised model offers a better reflection of reality.

2.6 | From a problem to a solution

It is reasonable to believe that allowing re-consideration of hypotheses following advice from learned reviewers is, in fact, practiced on many occasions. It makes good sense to listen to reviewers' ideas. For example, the author may think that a certain variable is a moderator, but the reviewer noticed that there are strong theoretical arguments to suggest that this variable is an antecedent. If the results support such an alternative hypothesis, it could be that the revised version will have a revised hypothesis.

In case the results indeed support the new hypotheses, the authors will thank the reviewers for helping them to use a more appropriate literature, revise the manuscript, and re-submit. Based on my significant experience, either as a reviewer or in my editorial roles, I believe that such scenarios are prevalent.

Case 7. Alternative research questions.

The cases listed above mostly refer to the quantitative, typically positivist approach. In the qualitative, interpretivist approach (Case 7a) it can also be the case that, a priori, the authors developed specific research questions, but then the data revealed answer(s) to different, additional research question(s). Should they pretend that the additional research question was the starting point, or that they had different, amended aim(s)? I propose that this is equivalent to HARKing and can be labeled PARKing. Ignoring the worthy and relevant new knowledge this offers would be wrong.

2.7 | From a problem to a solution

Employing transparency about how and why a new research question(s) or proposition was added is appropriate in this case. Alternatively, 'active discovery' or solving emerging mysteries can be the way forward (Alvesson & Kärreman, 2007), as well as pragmatism.

Case 8. External factors occurring during the study.

This is another case which reflects the current situation for a number of studies: A research design, which can be either qualitative or quantitative, includes multiple-waves of data collection. Between waves, external events took

place (like the COVID-19 pandemic), resulting in changes in attitudes and behaviors. This impact can be direct (if the study purpose was to study the possibility of working from home) or indirect (if the phenomenon under study was influenced by the pandemic). This can be taken as a variation of case 3. Should the researchers ignore the impact of the event? Again, this would be wrong.

2.8 | From a problem to a solution

As in cases 3 or 7, employing transparency about how and why external events in the context, particularly time-wise, had an impact that required revision of the hypotheses or propositions.

Case 9. An alternative paper altogether.

(The author wishes to thank an anonymous reviewer for this point).

Realizing that one has missed a significant relationship could form the basis of a new piece of work that focuses on this missed relationship. If a substantial number of the hypotheses need to be re-written or re-considered, the authors may develop either a separate, complementary paper, or discard the original paper and write an entire new piece of work with a different set of hypotheses. Yet, doing so may be considered as HARKing on all grounds—namely, not 'correcting' a single or a couple of hypotheses, but the entire set of hypotheses.

Based on the discussion presented in this *provocation* and on the cases described above, I offer a typology depicted in Figure 2 to identify the different ways in which HARKing (and PARKing) can be useful under different circumstances. One dimension is whether the HARKing is a result of a new theoretical basis, typically suggested by external agents, mostly editors and reviewers, or whether it is based on serendipity. The other dimension is whether the authors add an entirely new hypothesis or research question; or do they amend the current hypothesis or research questions? As a result, four quadrants are identified: ***Enriching***, ***Refining, Discovering, and Realizing***.[1]

2.8.1 | Enriching

The case of adding a new hypothesis or research question based on theory or the extant literature. This can lead to challenging existing theory or offering new perspectives that expand the cover of the theory.

	Adding new hypothesis/ research question	Amending existing hypothesis/ research Question
Theory based	***Enriching*** Examples: Case 2 Case 7	***Refining*** Examples: Case 1 Case 4
Serendipity based	***Discovering*** Examples: Case 5 Case 8	***Realizing*** Examples: Case 3 Case 6

FIGURE 2 A typology of HARKing.

2.8.2 | Refining

The case of amending the existing hypothesis or research question based on theoretical lens, as presented in the extant literature. This is a case where the hypothesis or research questions could have been presented differently, or could have covered an issue from a different perspective.

2.8.3 | Discovering

The case of adding a new hypothesis or research question based on serendipity. This is a case where unexpected inputs enable scholars to make new discoveries, again challenging existing theory or offering new theory or new elements to extend theory.

2.8.4 | Realizing

The case of amending the existing hypothesis or research question based on serendipity. This is a case where, by better positioning of the hypothesis or research question, the readers can realize a certain added value that was not clear under the original version.

All the examples listed above manifest cases where HARKing (and PARKing) would enable authors to report new findings and help shape new theories. Similar cases can be further identified where re-thinking and reconsidering models would justify revising ideas that have led to the original development of manuscripts. The basic idea is to prioritize knowledge creation over following conventional self-imposed, well intended but rigid regulations.

3 | DISCUSSION AND CONCLUSIONS

Empirical research, and its associated hypotheses or research questions (for quantitative and qualitative research design, respectively), is expected to be theory-driven but also need to be dynamic and revised when the data generated differ from the theory. Future studies in management studies in general, and for people management in particular, ought to be based on rigorous research. While this *provocation* is presented in an HRM-focused journal, its message is relevant to the wider field of management and organization studies. This is true in the same way that the message by Bozionelos and Simmering (2021) with regard to common method variance is relevant to the wider field of management and organizational studies, not just to HRM.

While I focused on hypothesis testing based on a quantitative, typically positivist approach, a similar case can be presented for qualitative work, when the authors may find it appropriate to amend their research questions if they find evidence for phenomena they did not anticipate in advance. I hope that HARKing that can be justified in line with the arguments and examples presented in this *provocation* would be allowed, even encouraged by editors, reviewers, and the management scholarly community.

When exactly could an a posteriori hypothesis be acceptable? To my view, the critical factors are knowledge development and the identification of reality. Authors may be able to correct and revise their work if there are strong reasons for the change—for example, missing a certain theory that can explain the new findings, or adding a construct that was missed in the original considerations. Thinking 'outside of the box' can be an innovative practice for future knowledge development (Kump, 2022).

Under what conditions and which processes would one need to follow to justify HARKing and PARKing? Research integrity is of utmost relevance and importance in academic conduct (Wright, 2016). Yet, one ought to be careful when deciding what integrity is and what it is not (Vardi & Weitz, 2003). Different standards also vary by country (Agnoli

et al., 2017), but HARKing is considered inappropriate globally (Bergkvist, 2020; Lishner, 2021; Rubin, 2017, 2020). To better understand the underlying philosophical and methodological mechanisms that render HARKing and PARKing unethical in the first place I would direct the reader to research method textbooks (e.g. Saunders et al., 2023). In principle, opportunistic HARKing (and PARKing) is wrong and unacceptable, and should not be conducted unless there are specific and strong justifications; for example, if, without it, true and worthy knowledge (i.e., that represent reality and can be useful) would not be discovered. Otherwise, HARKing in the shape of "question trolling" is a line that should not be crossed. Transparent about HARKing is critical (Aguinis et al., 2018), certainly not if the aim is maximizing one's chances of publication rather than based on scientific aim (Aguinis et al., 2020).

The current norm against HARKing (cf. Byington & Felps, 2017) ignores the fact that, on many occasions, HARKing is logical, serving as an enabler in the search for truth, and thus may be applied under certain circumstances. A key issue with the HARKing ban (Bosco et al., 2016; Murphy & Aguinis, 2019) is that it practically pushes scholars to be less than truthful in reporting the realities of their research process and outcomes. Examples for when that would be appropriate were presented in this essay. Scholars may also avoid HARKing by the use of two-way hypotheses, a practice that currently is (wrongly) considered unacceptable in the field of management studies.

From a methodological approach and research concept, HARKing transforms what is presented as deductive research into what may be taken as practically inductive or abductive. The meaning of HARKing is to pretend that the presented hypothesis is the actual hypothesis. This is wrong in principle—but should not be the cause for ignoring reality and finding true knowledge. The discussion and cases or scenarios presented in this paper offer a release for scholars from the need to pretend, and instead to be truthful to the community about how they have reached their outcomes.

On ethical grounds, it is *un*ethical to confine scholars to a practice that blocks them from new discoveries. After all, an outright ban on HARKing could mean discarding work that could be published. This might be a reason for scholars to misreport their work, a current disturbing phenomenon (Schwab & Starbuck, 2017). From a methodological approach and research concept, HARKing transforms what is presented as deductive research into what may be taken as practically inductive, although it can also be adductive when surprising facts can change how things are viewed. The meaning of HARKing is to pretend that the *presented* hypothesis is an *actual* hypothesis, which is wrong—but following the rule to the letter also poses a barrier to knowledge development. Scholars, in particular senior ones, should set a positive example, but this includes setting the right norms (Harley, 2019), not merely following flawed ones. At the individual level, publishing is a factor in academic career progress, and the rule that bans HARKing may hinder individual promotion. Thus, the temptation to bypass or ignore the rule is high, a rule that the public—in this case, the academic community—cannot adhere to.

This leads to a tricky point—is it advisable to pretend that post-hoc findings are a priori? The answer I give is that unless the system changes to accept HARKing under specific circumstances, then they may be encouraged to do so. This is admittedly unfortunate, because such an approach may cause scholars to bend their moral guidance. Honest and transparent reporting is a key issue here (Buchanan et al., 2013; Schwab & Starbuck, 2017).

One suggested solution to HARKing, offered by Hollenbeck and Wright (2017, p. 10), is to include in the discussion section a "Post Hoc Exploratory Analyses." To me, this is a non-elegant way to bypass the HARKing rule, as it brings the explanation at a far too late stage for the reader. An alternative approach was recently introduced: a new form of paper submission, two-step process. In the first step the researcher submits only the hypotheses, and then runs the tests. This idea reflects a naivety on the side of the system—it is too tempting for scholars who reached null results to go this way, again, after the results are known. Academic scholars are not immune from corruption when it comes to a desperate need to publish (Shoaib & Baruch, 2019). One way for journals to tackle it is applying tools that are now available to run the studies via specific interfaces, so there is a proven timestamp for when the study took place and to ensure that it was after the design and hypotheses were submitted.

HARKing (and PARKing) that enables the discovery of new knowledge is worthy of being congratulated. In this essay I argue for accepting, even recommending to HARK, or to employ different ways of hypotheses development to diffuse or avoid the issue of HARKing. Being transparent is critical here; thus, when HARKing is practiced, authors

should report it. Those imposing a ban on HARKing miss a major point in academic work: Our role as scholars is to 'search for the truth'. As a final note, my call to the academic community is—let us HARK, (but) when (and only when) appropriate.

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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ENDNOTE

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