How to Represent, Write, Publish, Protect, and Publicize Research Work During Ph.D. Program in India?

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ABSTRACT

Purpose: *Given a high level of importance to research writing and publication during the Ph.D. program. The purpose of this article is to explain i) standard rules and regulations of research writing, ii) the step-by-step process of research writing, iii) what to be covered in a research article/thesis, iv) what are all the opportunities scholars get during their Ph.D. program to publish high-quality research articles, v) the step-by-step process of publishing a research article, vi) how and when to protect intellectual properties generated by the scholars during the Ph.D. program, and most importantly vii) how to publicize the research work.*

Design/Methodology/Approach: *Postmodernism philosophical paradigm; Inductive research approach; Observation data collection method; Longitudinal data collection time frame; Qualitative data analysis.*

Findings/Result: *As long as the Ph.D. scholars can understand the essence of scholarly research writing and publication; tactics of increasing the quality and quantity of research publications; how to protect intellectual properties generated by them during the Ph.D. program; and most importantly how to publicize their research work, they will be able to (on their own) become well-known and go-to researchers in their area of research before even completing their Ph.D. program.*

Originality/Value: *There is a vast literature about the writing and publication of research work. However, only a few have explained them together comprehensively which is conceivable to Ph.D. scholars and only a few have explained various opportunities scholars get during their Ph.D. program to publish research articles. In this article, we have attempted to explain how to represent, write, publish, protect, and publicize research work during the Ph.D. program and most importantly how to seamlessly integrate their Course Work, Area of Interest, Research Question, Ph.D., and Career Plan with the publication target.*

Paper Type: *Conceptual.*

Keywords: Research Methodology; PhD; Ph.D.; Coursework; Doctoral Research; Research Representation; Research Writing; Research Article; Research Paper; Research Publication; Intellectual Property Rights; Research Media; Postmodernism

1. BACKGROUND :

A majority of stakeholders in the research education system have a lower level of clarity about the most important and indispensable steps of the doctoral-level research process viz., i) concluding and representing the research work; ii) writing the research work; iii) publishing the research work. These steps are crucial because they determine how well scholars have conducted research and how good scholars are at narrating their research story to the entire scientific community/scholarly world. A majority of them guide Ph.D. scholars to begin the journey without educating the scholars about the essence of representing a scholar's research work and publishing it to the scholarly world. In addition, there is a humongous confusion among Ph.D. scholars about i) standard rules of representation of the research work; ii) what to be written in a research article/thesis?; iii) what are all the opportunities they get to publish research articles during the Ph.D. program?; iv) where to publish?; v) what is intellectual property and how/why to own it?; vi) how to publicize the research work and get more citations?. This

lower level of clarity and the beginning of the Ph.D. journey without a clear understanding of the essence of research writing and publication is making it difficult for Ph.D. scholars to complete the journey successfully and most importantly if some scholars complete their Ph.D. journey successfully, their awareness about the 'Why/Where' they published their research work is very low. We believe that if the scholars can begin their Ph.D. journey by allocating a higher level of focus and time toward understanding key objectives/purposes of research writing and publication their journey will be with a very lower level of complications. But this reality is knowingly or unknowingly, intentionally, or unintentionally suppressed by a majority of stakeholders in the research education system in India. In other words, this *suppressed reality* has resulted in creating humungous confusion among Ph.D. scholars in India about the key purpose of the Ph.D. program i.e., sharing the new knowledge created through research writing and publication.

One thing Ph.D. scholars must always remind themselves of throughout their Ph.D. journey is the fact that they will be awarded a Ph.D. degree for doing doctoral-level research and most importantly publishing the research work to the scholarly world. Doing doctoral-level research and generating research outputs such as research articles and a thesis determines the probability of success in getting a Ph.D. degree. Furthermore, various research studies have identified factors affecting the Ph.D. success rate across the world. "To name a few a) scholar-supervisor/guide relationship; b) mentorship; c) dissertation process; d) role of the department; e) role of peer qualities; f) transformational learning experience provided; g) level of curiosity and interest in reviewing the existing literature; h) planning and time management skills; i) level of creative thinking and writing skills; j) amount of freedom in the research project; k) level of a supportive environment for Ph.D. scholars' well-being; l) higher-education practices; m) supervisors' research capabilities and gender; n) expectations set by the research environment; o) Ph.D. scholars' expectations; p) support network; q) level of Ph.D. scholars' socialization with the research community; r) Ph.D. scholars' navigation system; s) different terminologies for various components of doctoral-level research are given by different disciplines creating undue confusion in scholars' minds; t) data collection methods which just play the role of data collection and it is just one of the steps of the doctoral-level research process being portrayed as the research methodology/design; u) scholars' inability to identify their genuine interest in a fact/phenomenon/reality/truth/dependent variable, intensive review of existing literature, locating an important research gap, and finally formulating a research question; v) a lower level of clarity about the most important and indispensable step of the doctoral-level research process i.e., choosing an appropriate research philosophical paradigm that lays stepping stones toward answering the research question in a scientific and scholarly way; w) a lower level of clarity about the most important and indispensable step of the doctoral-level research process i.e., choosing an appropriate research approach/reasoning that paves path for decision concerning data collection and analysis; x) a humongous confusion among Ph.D. scholars in India about the difference between research methodology/design and research data collection methods; y) lower level of clarity and the beginning of the Ph.D. journey without a clear understanding of the essence of research data collection time frames; z) lower level of clarity about the right sample size and appropriate sampling techniques; aa) lower level of clarity about the difference between Mechanical/Electrical/Electronic instruments and Human instruments, the difference between 'Adopted', 'Adapted', and 'Developed' Human instruments, and difference between validity and reliability; ab) fear among scholars about statistical techniques " [1-56].

It is thus inevitable and imperative that Ph.D. scholars understand the standard rules and regulations of research writing and publication. The doctoral-level research which is the single most important requirement of the Ph.D. program is cognitively demanding and intends to create researchers who can create new knowledge or interpret existing knowledge about reality by using different perspectives, paradigms, and reasoning. Knowledge sharing requires autonomy, good quality time, a stress-free brain for deep thinking, and the freedom to look for more meaningful findings. This is the single most important reason for making doctoral-level research flexible wherein the scientific and scholarly world gives autonomy to Ph.D. scholars to formulate their question and answer it within 3-6 years using an appropriate research approach/reasoning. Nevertheless, only 50% of scholars admitted to Ph.D. in India completed, and that too in ten years whether or not they are aware of the importance of reasoning in doctoral-level research [46].

2. OBJECTIVE :

Surprisingly a majority of their research work is completed by the time scholars complete previous steps of doctoral-level research viz., i) formulating the research question (descriptive; relational; causal) [49]; ii) choosing research philosophical paradigm (positivism; interpretivism; critical realism; postmodernism; pragmatism) [50]; iii) choosing research approach/reasoning (deductive; inductive; abductive) [51]; iv) choosing data collection method and method choice [52]; v) choosing data collection time frame [53]; vi) deriving sample size [54]; vii) choosing sampling technique [54]; viii) choosing data collection instrument [55]; ix) data collection [46] [48]; x) statistically describing units of analysis/samples and data [56]; xi) statistically discovering relationship between variables of the research question [56]; xii) testing the statistical significance of relationship discovered [56]. However, the doctoral-level research is incomplete if the last three steps are completed viz., i) concluding and representing the research work; ii) writing the research work; iii) publishing the research work are crucial because these steps determine how well scholars have conducted research and how good scholars are at narrating their research story to the entire scientific community/scholarly world. *Owing to such a high level of importance given to research writing and publication during the Ph.D. program, the key objective of this article is to explain i) standard rules and regulations of research writing, ii) the step-by-step process of research writing, iii) what to be covered in a research article/thesis, iv) what are all the opportunities scholar's get during their Ph.D. program to publish high-quality research articles, v) the step-by-step process of publishing a research article, vi) how and when to protect intellectual properties generated by the scholars during the Ph.D. program, and most importantly vii) how to publicize the research work.*

3. REPRESENTATION OF THE RESEARCH WORK :

Ph.D. scholars must be aware that there are some standard rules and regulations about the conclusion, interpretation, and representation of their research work. While doing doctoral-level research, this step needs to be done very carefully, otherwise, misleading conclusions may be drawn and the whole purpose of doing research may get vitiated. It is only through interpretation that scholars can expose relations and processes that underlie research findings. The task of interpretation is not an easy job, rather it requires great skill and dexterity on the scholars' part. Interpretation is an art that one learns through practice and experience and one of the best ways to learn is by reading others' research articles and theses that are already published and freely accessible. Scholars must always remember that despite collecting the correct data and doing a proper analysis, the wrong interpretation would lead to inaccurate conclusions. The task of interpretation must be accomplished with patience, impartiality, and also in the correct perspective [57-71]. The basic standard rules of representing the research results whether scholars are writing a research article, or a Ph.D. thesis are explained below. Some rules differ for some Publishers/Universities. However, most of these rules remain the same for a majority of publishers/ Universities.

3.1. Tables (Self-made) :

In case scholars have created tables on their own, they need to write the table number along with the title of the table *just above* the table as shown in figure 1. Scholars must ensure to mention the table number whenever and wherever they are explaining the contents of such tables in their article or thesis. Even if it is a self-made table scholar must make sure they have taken care of the alignment, neatness, clarity, and size. Avoid using fronts that are not part of the regulations of the Institute or Publisher. It is recommended that scholars practice making tables in the Microsoft Word and Excel applications.

3.2. Tables (Statistical Software Output) :

In cases where scholars intend to use the tables that are created by the statistical software, scholars need to write the table number along with the title of the table *just above* the table as shown in figure 2. Scholars must ensure to mention the table number whenever and wherever they are explaining the contents of such tables in their article or thesis. Whenever scholars are showing a table that is an output of Statistical Software ensure pasting the table 'as is' without any edits or changes (including the font type).

Table 2: Mapping key elements with scope available for the retailer in Stage 1

Code	Element	Visibility	Measurability	Controllability
N	Need	Low	Low	Low
W	Want	Low	Low	Low
D	Demand	Low	Low	Low
F1	Store Awareness	Medium	Low	Medium
F2	Catchment-Level Advertisement	High	High	High
F3	Location Convenience	High	Medium	Medium
F4	Store Façade	High	High	High
E1	Previous Visit - Marketing Mix Memory	Low	Low	High
E2	Previous Visit - Benefits Realized	Low	Low	High
E3	Previous Visit - Sales Pitch	High	High	High
E4	Post-Purchase Engagement by the Sales Personnel	High	High	High

Fig. 1: Representing self-made table

Table 3: Collinearity diagnostics results

Collinearity Diagnostics										
				Variance Proportions						
Model	Dimension	Eigenvalue	Condition Index	(Intercept)	JS1	JS2	JS3	LS1	LS2	LS3
H_1	1	6.722	1.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	2	0.121	7.445	0.003	0.038	0.051	0.087	0.052	0.039	0.044
	3	0.049	11.698	0.841	0.000	0.002	0.097	0.038	0.022	0.022
	4	0.033	14.246	0.023	0.200	0.579	0.037	0.204	0.019	0.112
	5	0.029	15.126	0.058	0.026	0.332	0.333	0.440	0.109	0.064
	6	0.023	17.016	0.044	0.275	0.002	0.254	0.136	0.631	0.177
	7	0.022	17.546	0.031	0.460	0.032	0.191	0.130	0.180	0.581

Note. **The intercept model is omitted, as no meaningful information can be shown.**

Fig. 2: Representing statistical software output table

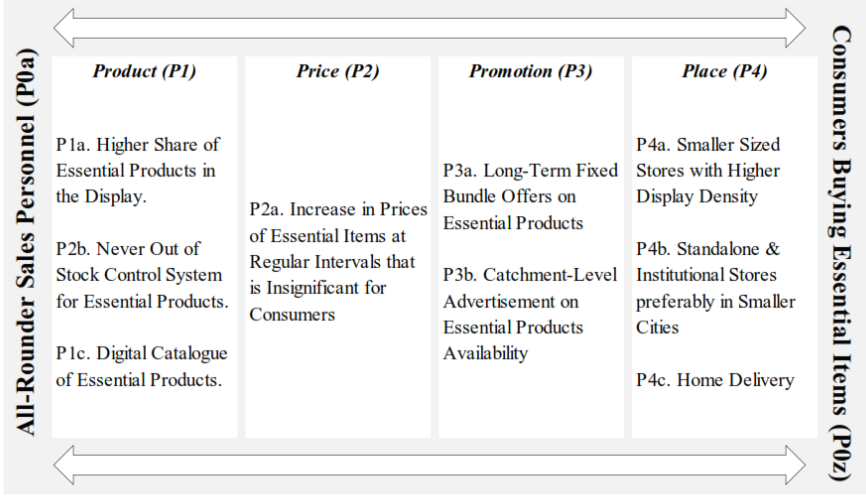


Figure 1: MoSR-b Conceptual Framework

Fig. 3: Representing self-made figure

3.3. Figures (Self-made) :

In case scholars have created figures/charts/graphs/frameworks, scholars need to write the figure number along with the title of the figure *just below* the figure as shown in figure 3. Scholars must ensure to mention the table number whenever and wherever they are explaining the contents of such figures in their article or thesis.

3.4. Figures (Statistical Software Output) :

Whenever scholars are showing a figure that is an output of Statistical Software ensure scholars paste

the figure as is without any edits or changes. Scholars need to write the figure number along with the title of the figure *just below* the figure as shown in figure 4. Scholars must ensure to mention the table number whenever and wherever they are explaining the contents of such figures in their article or thesis.

3.5. Equations/Formula :

If scholars intend to show any equation/formula, scholars need to write the equation/formula in closed brackets just after the equation/formula as shown in figure 5. Scholars must ensure to mention the table number whenever and wherever they are explaining the contents of such equations/formulas in their article or thesis.

3.6. Process Maps :

There are specific meanings assigned to every shape that is used in showing a schematic diagram of a process map as shown in figure 6. Scholars must ensure they are well aware of these meanings before using them.

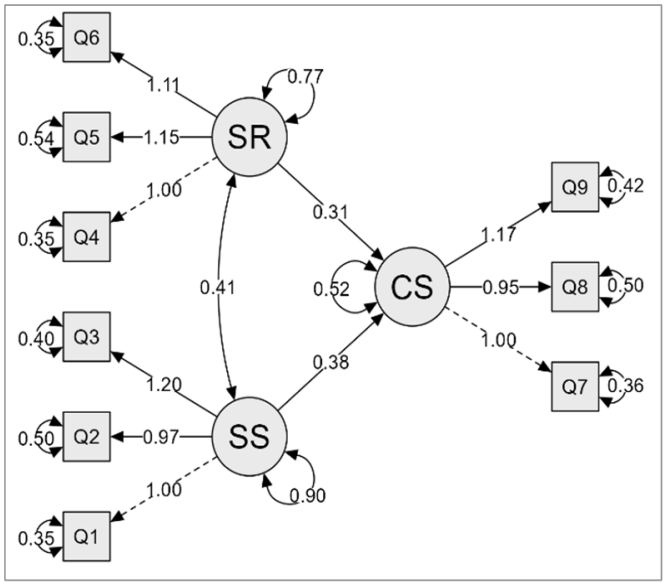


Figure 1: Structural equation model of customer satisfaction

Fig. 4: Representing statistical software output figure

Equation (32) is essentially a time-series relation. Predictability arises because investors do not know whether past dividends have been above or below the true mean. At any point in time, however, investors *do* observe whether a security's dividends are above or below the cross-sectional average. Our initial guess, then, was that deviations from the CAPM would not be *cross-sectionally* related to lagged prices: If cross-sectional variation in $a_{i,t+1}$ is related to the observable quantity $p_{i,t}$, it would seem that investors could use this information to earn abnormal returns. Surprisingly, this intuition is wrong. In sample, the cross-sectional relation between $a_{i,t+1}$ and $p_{i,t}$ is

$$\mathrm{cov}_{t+1}^{cs}[p_{i,t}, a_{i,t+1}] = \frac{1}{N}\sum_{i}(a_{i,t+1} - \bar{a}_{t+1}^{cs})(p_{i,t} - \bar{p}_{t}^{cs}). \qquad (33)$$

Fig. 5: Representing equation/formula

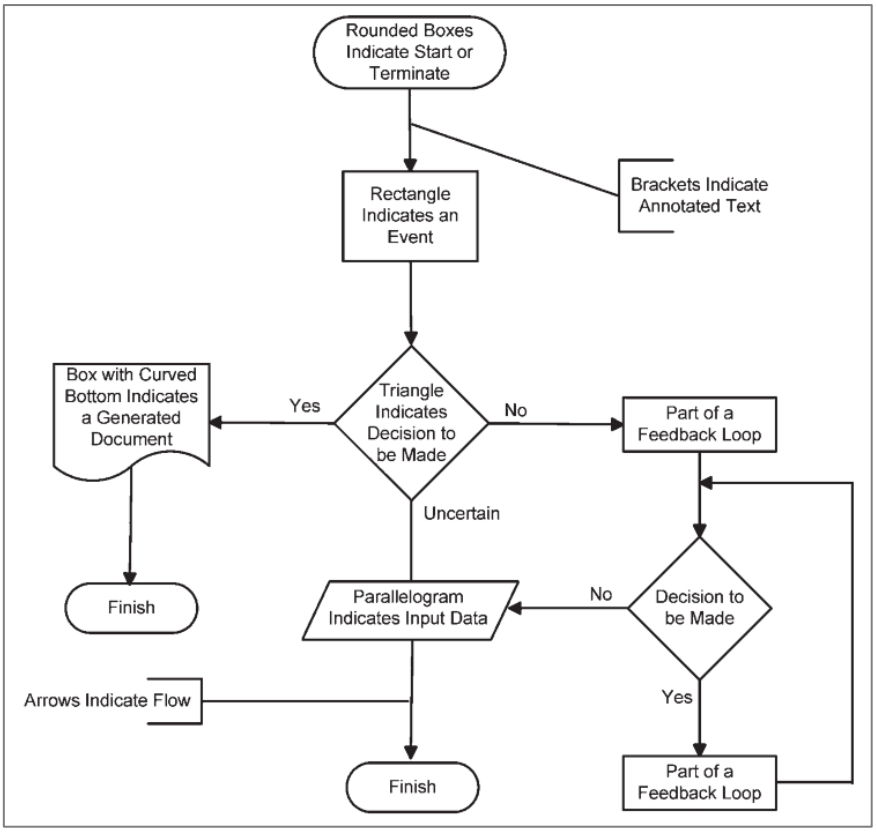


Fig. 6: Representing process map [57].

3.7. Variables in Diagrams :

Scholars should be cognizant of the fact that there are two main types of Variables such as 'Directly Measured Variables' and 'Indirectly Measured Variable (Latent Variable)'. Whenever scholars are trying to show their Variables in a schematic diagram they must ensure showing them as per the rules shown in table 1. Even when scholars are reading others' research work (authentic) scholars can quickly identify the type of Variable by just looking at the schematic diagrams in the article or thesis.

Table 1: Representing different types of variables

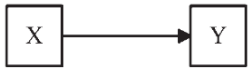
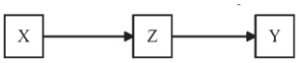
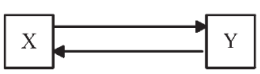
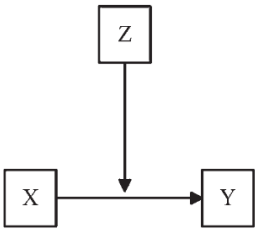
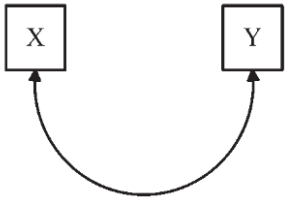
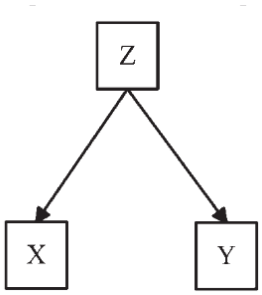
Directly Measured Variable	Directly measured Variables must be shown in a box shape.
Latent Variable Measured Indirectly	Indirectly measured Variables (Latent Variables) must be shown in an oval shape.
Error	Errors must be shown in a circle shape.

3.8. Relationships Among Variables in Diagrams :

Scholars should be aware that there are different and standard ways of representing the relationship

among Variables of their research in the schematic diagrams as shown in table 2 where 'X' is the Independent Variable, 'Z' is Moderating/Mediating Variable and 'Y' is the Dependent Variable. Whenever scholars intend to create Path/Schematic diagrams, they must ensure to follow these rules.

Table 2: Representing relationships among variables

	Direct Causal Relationship
	Indirect Causal Relationship
	Bidirectional Causal Relationship
	Moderated Causal Relationship
	Unanalyzed Relationship
	Spurious Relationship

Finally, we strongly recommend scholars learn to represent, express, and conclude their research work using 'Words' and 'Schematic Diagrams' (using both is recommended). By doing these scholars are enabling the readers of their article or thesis to look at any one or both of them according to the time available to them. For example, let us assume their research objective was to find how hard an adolescent (a young person between the ages of about 13 and 17 years) works in the school is assumed to be a direct cause of drug use. First, scholars need to summarize their findings using research terminology as shown below [57].

- The quality of the relationship between the mother and child is assumed to be a direct cause of how hard the adolescent works in school.
- The quality of the relationship between the mother and child has an indirect causal relationship

with drug use that is mediated by how hard the child works in school.

- The amount of time that a mother spends with her child is assumed to have a direct influence on the quality of the relationship between the parent and child.
- The gender of the adolescent is assumed to have a direct impact on the amount of time that a mother spends with her child, with mothers spending more time with girls than boys.
- Gender also has a direct influence on the quality of the relationship between mothers and their children, with mothers having better relationships with girls than boys.
- Because gender influences both the amount of time spent with the child and the quality of the relationship between mother and child, it is a common cause for these variables.
- Hence, some of the association between time spent together and relationship quality is spurious.

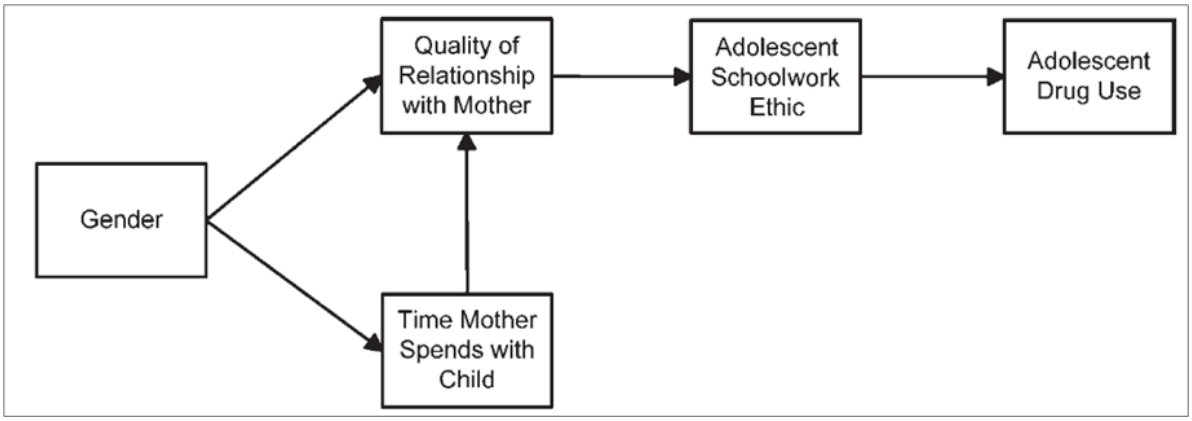


Fig. 7: Schematic diagram of research findings on adolescent drug use [57]

And in addition to summarizing their research findings using 'Words' now, scholars need to also show their research findings using a 'Path/Schematic Diagram' as shown in figure 7. In this context, we would like to remind scholars of a famous phrase by Albert Einstein, *"If scholars can't explain it simply, scholars don't understand it well enough"*.

4. WRITING RESEARCH WORK :

Once scholars have created all the Tables, Figures, Schematic Diagrams, and Equations/Formulas of their research work in the previous step, now scholars are ready for writing their research work which is the next step of the doctoral-level research process whether in the form of a research article or Ph.D. thesis [48]. However, it is not that easy as the same requires not just basic writing skills but in addition, scholars also need to develop research writing skills. If scholars do not have such writing skills, we recommend scholars look at the way other researchers have written their articles or theses at the time of the literature review. Nevertheless, to make the Ph.D. journey easier we have designed a step-by-step process for writing research work and we strongly recommend scholars follow these steps without bypassing any steps.

4.1. Key Steps of Writing Research Work :

- **Step 1:** First and foremost, scholars need to complete their research. This means completing steps 1 to 14 of the doctoral-level research viz., i) formulating the research question (descriptive; relational; causal); ii) choosing the research philosophical paradigm (positivism; interpretivism; critical realism; postmodernism; pragmatism); iii) choosing research approach/reasoning (deductive; inductive; abductive); iv) choosing data collection method and method choice; v) choosing data collection time frame; vi) deriving sample size; vii) choosing sampling technique; viii) choosing data collection instrument; ix) data collection; x) statistically describing units of analysis/samples and data; xi) statistically discovering the relationship between variables of the research question; xii) testing the statistical significance of the relationship discovered; xiv) concluding and representing the research work [46] [48].
- **Step 2:** Know the research output required (Article or Thesis?).
- **Step 3:** Understand the regulations of the University if scholars are writing a thesis or the regulations of the Publisher if scholars are writing a research article.

- **Step 4:** Create a template in the Microsoft Word application following regulations such as Font Name, Font Size, Spacing, Margins, Colors, etc.
- **Step 5:** Write a tentative title. Ideally, write the research question as the working title in case it is a research article otherwise write their Ph.D. topic that is already approved by the University in case scholars are writing the thesis.
- **Step 6:** Enter the Authors details such as Name, Designation, Place of Work, ORCID ID, and E-mail ID.
- **Step 7:** Write the introduction/background of the research.
- **Step 8:** Write existing literature about all the Variables and Units of Analysis of the research question.
- **Step 9:** Write the key and sub-objectives of the research.
- **Step 10:** Write the overall research design. Explain all the choices made from Step 1 to Step 14 of the doctoral-level research process
- **Step 11:** Write findings, results, and analysis. Make sure not to write personal opinions here.
- **Step 12:** Interactively write the conclusion and the opinions must be based on the data. Scholars are required to adhere to a wording protocol. Personal pronouns like "I think", and "in my view", and giving judgment a subjective and individualized tone must be avoided. As a result, the reporting should have a neutral tone. For instance, consider using words like, "in the opinion of the respondents", “based on data analysis”, “per the significance test results”, etc.
- **Step 13:** Write suggestions. Keep the key end-user of the research findings in mind while giving suggestions that are purely based on the research findings. For example, if the research was to understand the relationship between ‘Sales Quantity’ and ‘Discount’ in Retail Stores, then the suggestions must be addressed to ‘Retailers’ (end-user of their research output).
- **Step 14:** Write the limitations of the research.
- **Step 15:** Write the scope or directions for further research. Ideally, this must be connected with their Conclusion and Limitations.
- **Step 16:** Write acknowledgment. Thank key Organizations/People who helped conduct the research.
- **Step 17:** Take a printout of the article/thesis and read the entire article/thesis in the eyes of readers. Check the overall flow of the article/thesis and ensure the research story is narrated well.
- **Step 18:** Ensure all the tables, figures, and equations/formulas are numbered and referred to correctly in the body of the text. Also check for labeling, numbering, alignment, size, color, etc.,
- **Step 19:** Check the reference section and make sure the citations are following the regulations (APA; MLA; Harvard; Chicago Style etc) of the Publisher/University. Ensure the reference section numbering and the numbering of citations in the body of the article/thesis are matching in case we have numbered the citations instead of the name of the authors in the body of the article/thesis.
- **Step 20:** Only after completing the above 19 steps scholars should write the abstract which is a summary of their entire article/thesis and most importantly their research efforts. This section will appear at the beginning of their article/thesis and is what is read by the reviewers/readers first. The abstract must always create curiosity in the readers' minds.
- **Step 21:** Write keywords. Ensure the keywords finalized are capable of tracking the article/thesis easily by others using online media (especially Google Scholar). Remember all the difficulties faced while doing the literature review.
- **Step 22:** Now Finalize the title in case writing a research article. Ensure it is attractive, appealing, persuasive, and slightly generalized.
- **Step 23:** Check the spelling and grammar. Scholars can take the help of free software to do this job. For example, scholars can install ‘GRAMMARLY’ software and add the same as an ‘ad-in’ to their Microsoft Word application. Once scholars have installed such software scholars can check and correct spelling/grammar errors with just a click of a button.
- **Step 24:** Intentionally or unintentionally scholars might have copied someone else’s sentences in their original form. This leads to plagiarism and the University/Publisher will not accept any

research work unless the plagiarism is less than 10%. To do this task also scholars can take the help of software applications, for instance, PaperRater; Dupli Check; PlagScan; Drill Bit, etc.

- **Step 25:** Submit the research work to the Research Supervisor/Guide to review the quality/content of the research work.
- **Step 26:** Only after the internal review scholars can now submit the work to University/Publisher.
- **Step 27:** The last step is to follow up with the University/Publisher to get comments/feedback. Keep resubmitting the work after incorporating the comments till such time their work is accepted for publication/notification.

Scholars might now be thinking yes now we understand 'how' to write the research work, but 'what' to write in each section of the research article/thesis? We have come up with a few questions in each section of the research article/thesis which will help scholars understand 'what' should be written or covered in each of the twelve standard sections of a research article/thesis as detailed below.

Section 1 – Introduction/Background: What phenomenon/reality/truth/Dependent Variable is being studied?; What Independent Variables are being studied?; Which Population/Sample/Unit of analysis is being studied?; Why is this research question/problem need an in-depth investigation?; How will this research advance new knowledge or new ways of understanding?

Section 2 - Literature Review: What is the existing knowledge about their Dependent Variable?; What is the existing knowledge about their Independent Variable 1?; What is the existing knowledge about their Independent Variable 2 (if any)?; What is the existing knowledge about their Independent Variable 3(if any)?; What is the existing knowledge about their Independent Variable 4 (if any)?; What is the existing knowledge about the Research Population/Unit of Analysis/Sample?

***Section 3 - Need for the Study*:** What is the need for this research study? (this must match with the literature review); What is the type of question formulated and why?

Section 4 – Objectives: What is the main objective of this research?; What are the sub-objectives of this research?; What are the null hypotheses?; What are the research hypotheses?

Section 5 - Methodology: What is the research philosophical paradigm chosen and why?; What is the research approach chosen and why? What are the data collection methods chosen and why?; What is the research time frame chosen for data collection and why?; What is the population of the study?; What is the definition/criteria of the unit of analysis/sample?; What is the sample size and how did scholars arrive at the size?; What is the sampling technique and why did scholars choose it?; What are the calibration details of the data collection instrument (if any)?; What is the validity of the data collection instrument (if any)?; What is the reliability of the data collection instrument (if any)?; What are the statistical techniques used in the significance testing, data analysis, and interpretation (if any)?

Section 6 – Analysis, Results, and Finding: Show all the results of the statistical and non-statistical analysis in words, tables, figures, and equations/formulas (if any); What are the results of significance/ hypotheses testing for every null and research hypothesis (if any)?

Section 7 – Discussion and Conclusion: What are the qualitative findings?; What are the quantitative findings (if any)?; Explain the meaning of the findings and why they are important; How do scholars relate their research findings to similar research studies?; Consider mentioning other findings even if they are not part of their research objectives;

Section 8 – Suggestions: What are the suggestions to the end-user of their research?

Section 9 - Limitations of the Study: Explain all the limitations of the research viz., coverage, applicability, generalizability, geographical boundaries, context, validity, and reliability; Give detailed justifications for these limitations.

Section 10 - Scope for Further Research: What are the future directions for the research in this area?; What are the sub-objectives of their research that scholars were unable to achieve and why?

Section 11 – Acknowledgement: Which organizations and people helped scholars conduct this research work?

Section 12 – References: Research work of others (Theses, Articles, Book Chapters, Books, Websites, etc) scholars have cited in the body of all the Sections from 1 to 10 in the prescribed Citation Style of Publisher/University.

5. PUBLISHING RESEARCH WORK DURING PH.D. PROGRAM :

Scholars might think that what is still left after they have completed the writing part of the research article/thesis. As discussed in Chapter 1, the key goal of a researcher is to share the new knowledge discovered with the entire scientific community. To achieve this, scholars need to understand Publishing Research Work [72-102]. This is of course the last step of the doctoral-level research process which will guide scholars through understanding the dos and don'ts of publication [48]. Furthermore, we would be interested in explaining to scholars the various opportunities scholars might come across during their Ph.D. journey. Irrespective of their University's/Institute's regulations about publications during a Ph.D., we strongly recommend scholars encash these opportunities to publish their research work during their Ph.D. Scholars must seamlessly integrate their Course Work, Area of Interest, Research Question, Ph.D., and Career Plan with the publication target. Let us now discuss these opportunities in detail.

5.1. First Opportunity to Publish During Ph.D. :

The moment scholars finalize the Dependent Variable/Phenomenon/Reality/Effect/Truth, Independent Variables, and Units of Analysis/Samples for their Ph.D. research which is based on their genuine interest/expertise/experience, scholars are expected to do a Mega Literature Review. Scholars will be doing the literature review to understand the existing knowledge about Variables and Units of Analysis to find the research gap while formulating their research question [49]. Do note that by the end of the research question formulation step, scholars would have gathered huge information/data about Variables and Units of Analysis of their research question in the existing literature. This huge information/data gathered by scholars present the first opportunity for scholars to analyze and convert this literature information/data into what is called a 'Literature Review Article' that can be published as their first research publication during their Ph.D. We have named it Literature Analysis. Believe us, using the same literature information/data scholars can publish at least four 'Literature Analysis' articles by understanding the different ways of writing the literature review listed below.

- **Argumentative Literature Review:** It is examining literature selectively. Support or refute an argument or deeply embedded assumption or philosophical problem.
- **Integrative Literature Review:** Generating new frameworks and perspectives, including all studies related to their research question. This is also considered equivalent to primary research if done well.
- **Historical Literature Review:** Focussing on examining research throughout a period usually from the start. Traces the evolution of an issue, concept, theory, and phenomenon, and Identifies the likely directions for future research.
- **Methodological Literature Review:** Focussing on methods adopted previously to answer a question rather than focusing on the answer. This is reviewing the methods of analysis in the existing literature.
- **Systematic Literature Review:** Deliberately documenting, critically evaluating, and summarizing scientifically all of the research about a clearly defined research question (their research question). Focussing on a very specific empirical question, often posed in a cause-and-effect form, such as 'to what extent does 'X' contribute to 'Y'?
- **Theoretical Literature Review:** This helps scholars establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested. Also reveals that current theories are inadequate for explaining new or emerging research problems.

5.2. Second Opportunity to Publish During Ph.D. :

When scholars have formulated their research question, they have also finalized the Research Population/Unit of Analysis/Sample which poses the second opportunity for scholars to publish research articles known as Unit/Variable Analysis. Here scholars are required to select one of the Variables of their research question and conduct a mini-research (Exploratory phase/stage of research) with their Unit of Analysis/Sample (small sample size) using the simple primary data collection methods such as i) Single Case Study; ii) Phenomenology, iii) Archival, iv) Focus Group Discussion; v) Grounded Theory. Write and publish the Unit/Variable Analysis research articles. It is possible to at least publish three such articles during Ph.D.

5.3. Third Opportunity to Publish During Ph.D. :

When scholars have understood the 'Unit Analysis' and 'Variables' of their research question, now scholars are presented with the third opportunity which we have named Group Analysis. Here scholars are required to select one of the Variables of their research question and conduct a mini-research with multiple Units of Analysis/Samples (medium sample size) using simple primary data collection methods such as i) Multiple Case Study; ii) Meta-analysis, iii) Pilot Survey iv) Pilot Experiment. Write and publish the Group Analysis research articles. It is possible to at least publish three such Articles during Ph.D.

5.4. Fourth Opportunity to Publish During Ph.D. :

Once scholars have collected the mega data (large sample size) to answer their Ph.D. research question they are presented with the fourth opportunity which we have named 'Relational Analysis'. Here scholars are required to take a fresh look at the data collected from different perspectives, slice and dice the data in different ways, and make groups beyond their research objectives. This exercise will be able to provide scholars with many new insights into their research question/problem. Using these new insights write and publish Relational Analysis research articles. It is possible to at least publish three such articles during Ph.D.

As scholars can see they have an opportunity to publish at least fifteen high-quality primary research articles before even finishing their Ph.D. program. Do note that it is not just the Ph.D. degree that is required to grab Faculty/Research positions at dream Universities/Institutes/Organizations. In addition to the Ph.D. degree what is very important is the quantity and quality of research publications during the Ph.D. program. Till now we have discussed what are all the opportunities scholars are provided to publish research articles during the Ph.D. program. Now scholars need to also know 'Where to Publish' their research articles that are original and authentic, and how to protect their intellectual properties. Whenever scholars are ready to write a research article (before writing), ensure the below steps to publish.

- **Step 1:** Understand University/Institute regulations regarding publication requirements during the Ph.D. program.
- **Step 2:** Know your career plan in advance and ensure recruitment/promotion regulations of existing/potential/future employers about publications.
- **Step 3:** Understand the indexing requirements of existing/potential/future employers. Scholars must be aware that unfortunately/surprisingly, a few Universities/Institutes/Employers do not count scholarly publications if they are not indexed in Scopus or Web of Science.
- **Step 4:** Check the copyright clause of the Publisher. The research article is an intellectual property and scholars have put effort to carry out research and prepare such an article. Avoid Publishers/Journals that do not allow scholars to retain the copyright.
- **Step 5:** Know the possible reach of the Publisher. Do note that if the article is unable to reach as many researchers as possible then scholars are compromising on the expected Citations.
- **Step 6:** Check whether the Publisher is a reseller of their research work. For example, the Publisher does not give open access to articles. The reader must either subscribe to the Journal or pay an average of INR 5,000/- to access an article.
- **Step 7:** Check the review process and lead time. Avoid Publishers/Journals taking too much lead time to review and publish a research article.
- **Step 8:** Check publication charges. The research article is an intellectual property created by

scholars. Hence, avoid paying the Publisher/Journal to get an article published.

- **Step 9:** Check whether the articles published in the Journal selected for publication are indexed in Google Scholar (minimum qualification). If scholars are expecting higher Citations for their articles they need to ensure a larger reach, and this is only possible if their article (Full-text) is indexed in Google Scholar.
- **Step 10:** Review Publisher/Journal selection with the Research Supervisor/Guide/Seniors.

Scholars must make sure that the Publisher/Journal they have selected is not Fake or Predatory. Any articles published in fake/predatory Journals are not considered authentic research output. Many agencies are constantly updating the list of fake/predatory journals, we suggest scholars keep checking the list regularly.

6. PROTECTING RESEARCH WORK :

We would like to throw some light on how to protect scholars' research output which is an intellectual property created by scholars. If it is created by scholars then scholars must also be the owner of such property. There are three ways of protecting intellectual property as shown in table 3.

Table 3: Types of Intellectual Property Rights

Type	Protection	Symbol
Patent	Original Invention	℗
Trade Mark	Original Sign	™ ®
Copyright	Original Expression	©

The Government of India provides specific online platforms to apply for these three types of intellectual property rights separately [103-104]. Some Universities/Institutes in India have regulations regarding publication requirements during the Ph.D. program that are not in favor of protecting their intellectual properties. This is because the Publishers/Journals that are accepted by such Universities/Institutes do not allow scholars to retain their intellectual properties. Nevertheless, scholars need to play smart with such regulations, Universities, and Institutes. Check what is the minimum number of publications required by such Universities/Institutes during the Ph.D. program, publish only the minimum number of Articles in such Journals, and the remaining Articles to be published only in Journals that allow scholars to retain their intellectual properties. Another tactic is whenever their research output is headed toward producing any one of the following, scholars must make sure they are owing intellectual property rights whatsoever is the pressure or reason from their University/Institute.

- New Framework or New Analysis Tool
- New Human Instrument/Scale
- New Model
- New Software
- New Strategy
- New Equation/Formula
- New Data Collection Method
- New Invention/Discovery
- New Theory

7. PUBLICIZING RESEARCH WORKS :

The probability of getting citations is higher if their research work is openly/freely accessible across all the available indexing agencies. Do not rely on their Publisher to publicize their research work. Scholars are recommended to promote their research papers for maximum reachability through search results by adding their research papers to various indexing agencies as Author level indexing apart from Journal level indexing. Scholars must also ensure they are registered as a member of the following indexing agencies and all their research work is up-to-date [105-111].

- ORCID (Open Researcher and Contributor ID)
- UGC Vidwan
- UGC Shodh Chakra
- SSRN
- Research Gate
- Academia
- Google Scholar

8. CONCLUSION :

Ph.D. scholars must be aware that there are some standard rules and regulations about the conclusion, interpretation, and representation of their research work. While doing doctoral-level research, this step needs to be done very carefully, otherwise, misleading conclusions may be drawn and the whole purpose of doing research may get vitiated. It is only through interpretation that scholars can expose relations and processes that underlie research findings. Research writing is not that easy as the same requires not just basic writing skills but in addition, scholars also need to develop research writing skills. If scholars do not have such writing skills, we recommend scholars look at the way other researchers have written their articles or theses at the time of the literature review. The key goal of a researcher is to share the new knowledge discovered with the entire scientific community. To achieve this, scholars need to understand how to find opportunities during the Ph.D. program to publish high-quality research articles. Irrespective of the University/Institute's regulations about publications during the Ph.D. program, we strongly recommend scholars encash various opportunities they get during their Ph.D. journey to publishing their research work. As demonstrated in this article, scholars can see they get an opportunity to publish at least fifteen high-quality primary research articles before even finishing their Ph.D. program. Scholars must note that it is not just the Ph.D. degree that is required to grab Faculty/Research positions at their dream Universities/Institutes/Organizations. In addition to the Ph.D. degree what is very important is the quantity and quality of research publications during the Ph.D. program. Thus, scholars must also learn to seamlessly integrate their Course Work, Area of Interest, Research Question, Ph.D., and Career Plan with the publication target.

We have noticed that a majority of scholars think publication during the Ph.D. program is a curse. However, scholars must be cognizant of the fact that the whole purpose of giving autonomy to Ph.D. scholars is to focus on delivering high-quality research output and share the same with the scholarly world. This is only possible when scholars can prepare scholarly research articles and publish them in journals that give open access to such research articles to the entire scholarly world. It is the responsibility of every stakeholder in the research environment and system to ensure that the scholars are made aware of the key purpose of doctoral-level research which must end with a few scholarly publications which would enable them to look for the right opportunities to prepare scholarly research articles and publish them during their Ph.D. journey. Designing robust coursework that is intended to create awareness about research representation, writing, and publication is an appropriate way of fulfilling this responsibility. As long as the Ph.D. scholars can understand i) standard rules and regulations of research writing, ii) the step-by-step process of research writing, iii) what to be covered in a research article/thesis, iv) what are all the opportunities scholars get during their Ph.D. program to publish high-quality research articles, v) the step-by-step process of publishing a research article, vi) how and when to protect intellectual properties generated by the scholars during the Ph.D. program, and most importantly vii) how to publicize the research work. Scholars will be able to (on their own) become well-known and go-to researchers in their area of research before even completing their Ph.D. program.

REFERENCES :

[1] Titus, S. L., & Ballou, J. M. (2013). Faculty members' perceptions of advising versus mentoring: Does the name matter?. *Science and Engineering ethics*, *19*(3), 1267-1281. Google Scholar↗

[2] Ali, A., & Kohun, F. (2006). Dealing with isolation feelings in IS doctoral programs. *International Journal of Doctoral Studies*, *1*(1), 21-33. Google Scholar↗

[3] Ali, A., Kohun, F., & Levy, Y. (2007). Dealing with Social Isolation to Minimize Doctoral Attrition- A Four Stage Framework. *International Journal of Doctoral Studies*, *2*(1), 33-49. Google Scholar↗

[4] Spaulding, L. S., & Rockinson-Szapkiw, A. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. *International Journal of Doctoral Studies*, *7*, 199. Google Scholar↗

[5] Golde, C. M., & Dore, T. M. (2001). At cross purposes: What the experiences of today's doctoral students reveal about doctoral education, *ERIC Processing and Reference Facility*, 1-62. Google Scholar↗

[6] Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, *76*(6), 669-700. Google Scholar↗

[7] Golde, C. M., & Walker, G. E. (Eds.). (2006). *Envisioning the future of doctoral education: Preparing stewards of the discipline-Carnegie essays on the doctorate* (Vol. 3). John Wiley & Sons. Google Scholar↗

[8] Gardner, S. K. (2009). Student and faculty attributions of attrition in high and low-completing doctoral programs in the United States. *Higher education*, *58*(1), 97-112. Google Scholar↗

[9] Gardner, S. K. (2010). Faculty perspectives on doctoral student socialization in five disciplines. *International Journal of Doctoral Studies*, *5*, 39. Google Scholar↗

[10] Solmon, M. A. (2009). How do doctoral candidates learn to be researchers? Developing research training programs in kinesiology departments. *Quest*, *61*(1), 74-83. Google Scholar↗

[11] Nogueira-Martins, L. A., Fagnani Neto, R., Macedo, P. C. M., Citero, V. D. A., & Mari, J. D. J. (2004). The mental health of graduate students at the Federal University of São Paulo: a preliminary report. *Brazilian Journal of Medical and Biological Research*, *37*, 1519-1524. Google Scholar↗

[12] Knox, S., Schlosser, L. Z., Pruitt, N. T., & Hill, C. E. (2006). A qualitative examination of graduate advising relationships: The advisor perspective. *The Counseling Psychologist*, *34*(4), 489-518. Google Scholar↗

[13] Grady, R. K., La Touche, R., Oslawski-Lopez, J., Powers, A., & Simacek, K. (2014). Betwixt and between: The social position and stress experiences of graduate students. *Teaching Sociology*, *42*(1), 5-16. Google Scholar↗

[14] Russell, J., Gaudreault, K. L., & Richards, K. A. R. (2016). Doctoral student socialization: Educating stewards of the physical education profession. *Quest*, *68*(4), 439-456. Google Scholar↗

[15] Russell, J. A. (2015). Rolling with the punches: Examining the socialization experiences of kinesiology doctoral students. *Research quarterly for exercise and sport*, *86*(2), 140-151. Google Scholar↗

[16] Harding-DeKam, J. L., Hamilton, B., & Loyd, S. (2012). The hidden curriculum of doctoral advising. *NACADA Journal*, *32*(2), 5-16. Google Scholar↗

[17] Mansson, D. H., & Myers, S. A. (2012). Using mentoring enactment theory to explore the doctoral student–advisor mentoring relationship. *Communication Education*, *61*(4), 309-334. Google Scholar↗

[18] Robinson, E. M., & Tagher, C. G. (2017). The companion dissertation: Enriching the doctoral

experience. *Journal of Nursing Education*, *56*(9), 564-566. Google Scholar↗

[19] Haynes, K. N. (2008). Reasons for doctoral attrition. *Health*, *8*, 17-4. Google Scholar↗

[20] Mazerolle, S. M., Bowman, T. G., & Klossner, J. C. (2015). An analysis of doctoral students' perceptions of mentorship during their doctoral studies. *Athletic Training Education Journal*, *10*(3), 227-235. Google Scholar↗

[21] Holsinger Jr, J. W. (2008). Situational leadership applied to the dissertation process. *Anatomical Sciences Education*, *1*(5), 194-198. Google Scholar↗

[22] McNamara, J. F., Lara-Alecio, R., Hoyle, J., & Irby, B. J. (2010). Doctoral program issues: Commentary on companion dissertations. *A Doctoral Issues Presentation at the National Council of Professors of Educational Administration* Lexington, KY, August 2, 2006. Google Scholar↗

[23] Carter-Veale, W. Y., Tull, R. G., Rutledge, J. C., & Joseph, L. N. (2016). The dissertation house model: Doctoral student experiences coping and writing in a shared knowledge community. *CBE—Life Sciences Education*, *15*(3), ar34. Google Scholar↗

[24] Devos, C., Boudrenghien, G., Van der Linden, N., Azzi, A., Frenay, M., Galand, B., & Klein, O. (2017). Doctoral students' experiences leading to completion or attrition: A matter of sense, progress and distress. *European journal of psychology of education*, *32*(1), 61-77. Google Scholar↗

[25] Beatty, S. E. (2001). The doctoral supervisor-student relationship: some American advice for success. *The Marketing Review*, *2*(2), 205-217. Google Scholar↗

[26] Carpenter, S., Makhadmeh, N., & Thornton, L. J. (2015). Mentorship on the doctoral level: An examination of communication faculty mentors' traits and functions. *Communication Education*, *64*(3), 366-384. Google Scholar↗

[27] Most, D. E. (2008). Patterns of doctoral student degree completion: A longitudinal analysis. *Journal of College Student Retention: Research, Theory & Practice*, *10*(2), 171-190. Google Scholar↗

[28] Stock, W. A., Siegfried, J. J., & Finegan, T. A. (2011). Completion rates and time-to-degree in economics PhD programs (with comments by David Colander, N. Gregory Mankiw, Melissa P. McInerney, James M. Poterba). *American Economic Review*, *101*(3), 176-88. Google Scholar↗

[29] Wamala, R., Ocaya, B., & Oonyu, J. C. (2012). Extended Candidature and Non-Completion of a Ph. D. at Makerere University, Uganda. *Contemporary Issues in Education Research*, *5*(3), 175-184. Google Scholar↗

[30] https://academy.pubs.asha.org/2011/12/higher-education-practices-that-promote-phd-completion/. Retrieved in October 2022.

[31] Preston, J. P., Ogenchuk, M. J., & Nsiah, J. K. (2014). Peer mentorship and transformational learning: PhD student experiences. *Canadian Journal of Higher Education*, *44*(1), 52-68. Google Scholar↗

[32] Devine, K., & Hunter, K. H. (2017). PhD student emotional exhaustion: the role of supportive supervision and self-presentation behaviours. *Innovations in Education and Teaching International*, *54*(4), 335-344. Google Scholar↗

[33] Van Rooij, E., Fokkens-Bruinsma, M., & Jansen, E. (2021). Factors that influence PhD candidates' success: the importance of PhD project characteristics. *Studies in Continuing Education*, *43*(1), 48-67. Google Scholar↗

[34] Chenevix-Trench, G. (2006). What makes a good PhD student?. *Nature*, *441*(7090), 252-252. Google Scholar↗

[35] Dericks, G., Thompson, E., Roberts, M., & Phua, F. (2019). Determinants of PhD student satisfaction: the roles of supervisor, department, and peer qualities. *Assessment & evaluation in higher education volume 44*(7), 1053-1068. Google Scholar↗

[36] Corsini, A., Pezzoni, M., & Visentin, F. (2022). What makes a productive Ph. D. student?. *Research Policy 51*(10), 104561. Google Scholar↗

[37] Lindvig, K. (2018). The implied PhD student of interdisciplinary research projects within monodisciplinary structures. *Higher Education Research & Development*, *37*(6), 1171-1185. Google Scholar↗

[38] Holbrook, A., Shaw, K., Scevak, J., Bourke, S., Cantwell, R., & Budd, J. (2014). PhD candidate expectations: Exploring mismatch with experience. *International Journal of Doctoral Studies*, *9*, 329. Google Scholar↗

[39] Björkman, B. (2015). PhD supervisor-PhD student interactions in an English-medium Higher Education (HE) setting: Expressing disagreement. *European Journal of Applied Linguistics*, *3*(2), 205-229. Google Scholar↗

[40] Dimitrova, R. (2016). Ingredients of good PhD supervision-evidence from a student survey at Stockholm university. *Utbildning och Lärande/Education and Learning*, *10*(1), 40-52. Google Scholar↗

[41] Sullivan-Bolyai, S., & L'Esperance, S. (2022). Reflections on virtual research conferences and PhD student socialization: The missing link of in-person human connectedness. *Applied Nursing Research*, *64* (April 2022), 151553. Google Scholar↗

[42] Alpert, F., & Eyssell, T. H. (1995). Getting the most from their doctoral program: Advice for the Ph. D. student in finance. *Journal of Financial Education*, 12-20. Google Scholar↗

[43] Groen, J. (2020). *Perceptions of Transformation and Quality in Higher Education: A Case Study of PhD Student Experiences* (Doctoral dissertation, University of Ottawa). Google Scholar↗

[44] Helfer, F., & Drew, S. (2013). A small-scale investigation into Engineering PhD student satisfaction with supervision in an Australian university campus. In *24th Annual Conference of the Australasian Association for Engineering Education* (pp. 1-9). Google Scholar↗

[45] Cunningham-Williams, R. M., Wideman, E., & Fields, L. (2019). Ph. D. Student Development: A Conceptual Model for Research-Intensive Social Work PhD Programs. *Journal of Evidence-Based Social Work*, *16*(3), 278-293. Google Scholar↗

[46] Ganesha H. R., & Aithal, P. S. (2022). *Doing Ph.D. in India. A Step-by-Step Guide.* First Edition. Notion Press. India & Singapore. ISBN: 9798887832005. Google Scholar↗

[47] Ganesha H. R., & Aithal, P. S. (2022). The '8Fs' Concept for Simplifying the Complications of Ph.D. Journey in India. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *6*(2), 320-339. Google Scholar↗

[48] Ganesha H. R., & Aithal, P. S. (2022). The DDLR Model of Research Process for Designing Robust and Realizable Research Methodology During Ph.D. Program in India. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *7*(2), 400-417. Google Scholar↗

[49] Ganesha, H. R. & Aithal, P. S. (2022). PHDRQ Model for Identifying Research Gaps and Formulating A Research Question During Ph.D. Program in India. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *6*(2). 408-421. Google Scholar↗

[50] Ganesha, H. R. & Aithal, P. S. (2022). Why is it Called Doctor of Philosophy and Why Choosing Appropriate Research Philosophical Paradigm is Indispensable During Ph.D. Program in India?. *International Journal of Philosophy and Languages (IJPL)*, *1*(1). 42-58. Google Scholar↗

[51] Ganesha, H. R. & Aithal, P. S. (2022). Approaching Research in Different Ways. How to Choose an Appropriate Research Approach/Reasoning During Ph.D. Program in India?. *International Journal of Philosophy and Languages (IJPL)*, *1*(1). 59-74. Google Scholar↗

[52] Ganesha, H. R. & Aithal, P. S. (2022). How to Choose an Appropriate Research Data Collection Method and Method Choice Among Various Research Data Collection Methods and Method Choices During Ph.D. Program in India?. *International Journal of Management, Technology, and*

*Social Sciences (IJMTS), 7(*2), 455-489. Google Scholar↗

[53] Ganesha H. R., & Aithal, P. S. (2022). When to Collect Data? Choosing an Appropriate Time Frame for Data Collection During Ph.D. Program in India?. *International Journal of Applied Engineering and Management Letters (IJAEML), 6*(2), 271-287. Google Scholar↗

[54] Ganesha H. R., & Aithal, P. S. (2022). Deriving Right Sample Size and Choosing an Appropriate Sampling Technique to Select Samples from the Research Population During Ph.D. Program in India. *International Journal of Applied Engineering and Management Letters (IJAEML), 6(*2), 288-306. Google Scholar↗

[55] Ganesha H. R., & Aithal, P. S. (2022). Choosing an Appropriate Data Collection Instrument and Checking for the Calibration, Validity, and Reliability of Data Collection Instrument Before Collecting the Data During Ph.D. Program in India. *International Journal of Management, Technology, and Social Sciences (IJMTS), 7*(2), 497-513. Google Scholar↗

[56] Ganesha H. R., & Aithal, P. S. (2022). Why and When Statistics is Required, and How to Simplify Choosing Appropriate Statistical Techniques During Ph.D. Program in India?. *International Journal of Management, Technology, and Social Sciences (IJMTS), 7*(2), 514-547. Google Scholar↗

[57] Jaccard, J., & Jacoby, J. (2010). *Theory construction and model-building skills: A practical guide for social scientists*. Guilford publications. Google Scholar↗

[58] Willig, C. (2014). Interpretation and analysis. *The SAGE handbook of qualitative data analysis*, *481*. Google Scholar↗

[59] Spiggle, S. (1994). Analysis and interpretation of qualitative data in consumer research. *Journal of consumer research*, *21*(3), 491-503. Google Scholar↗

[60] Taylor, C. (1973). Interpretation and the sciences of man. In *Explorations in phenomenology* (pp. 47-101). Springer, Dordrecht. Google Scholar↗

[61] Peshkin, A. (2000). The nature of interpretation in qualitative research. *Educational researcher*, *29*(9), 5-9. Google Scholar↗

[62] MacCoun, R. J. (1998). Biases in the interpretation and use of research results. *Annual review of psychology*, *49*(1), 259-287. Google Scholar↗

[63] White, H. (1973). Interpretation in history. *New Literary History*, *4*(2), 281-314. Google Scholar↗

[64] Lord, F. M. (1967). A paradox in the interpretation of group comparisons. *Psychological bulletin*, *68*(5), 304. Google Scholar↗

[65] Gile, D. (1994). Methodological Aspects of Interpretation. *Bridging the gap: Empirical research in simultaneous interpretation*, *3*(1), 39-42. Google Scholar↗

[66] Baude, W., & Sachs, S. E. (2016). The law of interpretation. *Harv. L. Rev.*, *130*, 1079. Google Scholar↗

[67] Loewenstein, R. M. (1951). The problem of interpretation. *The Psychoanalytic Quarterly*, *20*(1), 1-14. Google Scholar↗

[68] Barnett, R. E. (2011). Interpretation and construction. *Harv. JL & Pub. Pol'y*, *34*, 65. Google Scholar↗

[69] Von Glasersfeld, E. (1983). On the concept of interpretation. *Poetics*, *12*(2-3), 207-218. Google Scholar↗

[70] Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research: Reading, analysis, and interpretation* (Vol. 47). Sage. Google Scholar↗

[71] Leon, A. C., Davis, L. L., & Kraemer, H. C. (2011). The role and interpretation of pilot studies in clinical research. *Journal of psychiatric research*, *45*(5), 626-629. Google Scholar↗

[72] Aithal, P. S., & Kumar, P. M. (2017). Challenges and Opportunities for Research & Publications in Higher Education. *International Journal of Scientific Research and Modern Education (IJSRME), ISSN (Online)*, 2455-5630. Google Scholar↗

[73] Aithal, P. S., & Aithal, S. (2019, October). Scholarly Publication Based Research Journals Classification–New Insight-Based Model. In *Proceedings of International Conference on Emerging Trends in Management, IT and Education* (Vol. 1, No. 1, pp. 01-14). Google Scholar↗

[74] Flowerdew, J. (2012). English for research publication purposes. *The handbook of English for specific purposes*, 301-321. Google Scholar↗

[75] Wager, E., & Kleinert, S. (2010). Responsible research publication: international standards for authors. *Promoting Research Integrity in a Global Environment. Singapore*, 309-16. Google Scholar↗

[76] Huff, A. S. (2008). *Designing research for publication*. Sage. Google Scholar↗

[77] Masic, I., Hodzic, A., & Mulic, S. (2014). Ethics in medical research and publication. *International journal of preventive medicine*, *5*(9), 1073. Google Scholar↗

[78] King, G. (2006). Publication, publication. *PS: Political Science & Politics*, *39*(1), 119-125. Google Scholar↗

[79] American Psychological Association. (1983). *Publication manual*. Washington, DC: American Psychological Association. Google Scholar↗

[80] Godin, B. (1996). Research and the practice of publication in industries. *Research policy*, *25*(4), 587-606. Google Scholar↗

[81] Over, R. (1982). Collaborative research and publication in psychology. *American Psychologist*, *37*(9), 996. Google Scholar↗

[82] Young, N. S., Ioannidis, J. P. A., & Al-Ubaydli, O. (2008). Why current publication practices may distort science. *PLoS medicine*, *5*(10), e201. Google Scholar↗

[83] Wilson, E. V., & Lankton, N. K. (2004). Interdisciplinary research and publication opportunites in information systems and health care. *The Communications of the Association for Information Systems*, *14*(1), 51. Google Scholar↗

[84] Lee, A. S. (1995). Reviewing a manuscript for publication. *Journal of Operations Management*, *13*(1), 87-92. Google Scholar↗

[86] Stern, J. M., & Simes, R. J. (1997). Publication bias: evidence of delayed publication in a cohort study of clinical research projects. *Bmj*, *315*(7109), 640-645. Google Scholar↗

[86] Becker, H. S. (2017). Problems in the publication of field studies. In *Research Design* (pp. 325-340). Routledge. Google Scholar↗

[87] Song, F., Parekh, S., Hooper, L., Loke, Y. K., Ryder, J., Sutton, A. J., ... & Harvey, I. (2010). Dissemination and publication of research findings: an updated review of related biases. *Health technology assessment*, *14*(8), 1-220. Google Scholar↗

[88] Easterbrook, P. J., Gopalan, R., Berlin, J. A., & Matthews, D. R. (1991). Publication bias in clinical research. *The Lancet*, *337*(8746), 867-872. Google Scholar↗

[89] Huber, W. D. (2015). The research-publication complex and the construct shift in accounting research. *International Journal of Critical Accounting*, *7*(1), 1-48. Google Scholar↗

[90] Alpi, K. M., & Evans, J. J. (2019). Distinguishing case study as a research method from case reports as a publication type. *Journal of the Medical Library Association: JMLA*, *107*(1), 1. Google Scholar↗

[91] Rahman, M., & Fukui, T. (2003). Biomedical publication—global profile and trend. *Public*

health, *117*(4), 274-280. Google Scholar↗

[92] Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British journal of clinical psychology*, *38*(3), 215-229. Google Scholar↗

[93] Benos, D. J., Fabres, J., Farmer, J., Gutierrez, J. P., Hennessy, K., Kosek, D., ... & Wang, K. (2005). Ethics and scientific publication. *Advances in physiology education*, *29*(2), 59-74. Google Scholar↗

[94] Hicks, C. (1995). The shortfall in published research: a study of nurses' research and publication activities. *Journal of Advanced Nursing*, *21*(3), 594-604. Google Scholar↗

[95] Dickersin, K., Min, Y. I., & Meinert, C. L. (1992). Factors influencing publication of research results: follow-up of applications submitted to two institutional review boards. *Jama*, *267*(3), 374-378. Google Scholar↗

[96] Amat, C. (2008). Editorial and publication delay of papers submitted to 14 selected Food Research journals. Influence of online posting. *Scientometrics*, *74*(3), 379-389. Google Scholar↗

[97] Auranen, O., & Nieminen, M. (2010). University research funding and publication performance—An international comparison. *Research policy*, *39*(6), 822-834. Google Scholar↗

[98] Gauffriau, M., Larsen, P., Maye, I., Roulin-Perriard, A., & von Ins, M. (2007). Publication, cooperation and productivity measures in scientific research. *Scientometrics*, *73*(2), 175-214. Google Scholar↗

[99] Starbuck, W. H. (2005). How much better are the most-prestigious journals? The statistics of academic publication. *Organization Science*, *16*(2), 180-200. Google Scholar↗

[100] Ahila, M., & Nagarajan, M. (2011). Research publication trend on pharmacology research: a bibliometric study. *Library Progress (International)*, *31*(1), 79-89. Google Scholar↗

[101] Guyatt, G. H., Oxman, A. D., Montori, V., Vist, G., Kunz, R., Brozek, J., ... & Schünemann, H. J. (2011). GRADE guidelines: 5. Rating the quality of evidence—publication bias. *Journal of clinical epidemiology*, *64*(12), 1277-1282. Google Scholar↗

[102] Wager, E. (2017). *Getting research published: an A to Z of publication strategy*. CRC Press. Google Scholar↗

[103] https://copyright.gov.in/UserRegistration/frmLoginPage.aspx. Retrieved in November 2022.

[104] https://ipindiaonline.gov.in/epatentfiling/goForLogin/doLogin. Retrieved in November 2022.

[105] https://orcid.org/signin. Retrieved in November 2022.

[106] https://vidwan.inflibnet.ac.in/. Retrieved in November 2022.

[107] https://schakrabeta.inflibnet.ac.in/. Retrieved in November 2022.

[108] https://www.ssrn.com/index.cfm/en/. Retrieved in November 2022.

[109] https://www.researchgate.net/. Retrieved in November 2022.

[110] https://www.academia.edu/login. Retrieved in November 2022.

[111] https://scholar.google.com/. Retrieved in November 2022.

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