

# A Robust Grounded Theory: New Research Process Trustworthiness Criteria

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## ABSTRACT

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More than 50 years ago, Glaser and Strauss constructed the grounded theory methodology to develop substantive and formal data-based theories. Recently, grounded theory methodology was used to construct a macro-level theory. Grounded theory is a rigorous methodology for generating theory grounded in data by incorporating its intellectual engine: compare-and-contrast and abductive reasoning. Whenever one of these data analysis processes is engaged, so is the other. However, there needs to be a systematic means to assess the quality of grounded theory's method of data analysis. This paper aims to start the conversation among methodologists and practitioners by recommending three criteria for assessing how rigorously the methodology was engaged by incorporating abductive discoveries, results of variation-finding, and Tilly's comparison framework —individualizing, variation-finding, universalizing, and encompassing comparison. Examples from Forde's macro-level grounded theory will be used to demonstrate the significance of specifying a systematic constant comparison approach, variation-finding, and abductive discoveries.

**Keywords:** Abstraction, Abductive reasoning; Broad-range grounded theory; Charmaz; Constant compare-and-contrast method; Corbin and Strauss; Encompassing comparison; Glaser and Strauss; Individualizing comparison; Qualitative methodology; Rigor; Tilly's typologies of constant comparison; Transition to democracy theory; Variation-finding comparison; Trustworthiness; Universalizing comparison.

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## 1. Introduction

[F]ormal comparison is both possible and desirable, but here again, the concern will be not with similarities only [...], but with differences also, for the sake of heightened understanding.

—Macfarlane, 2006 citing Pocock, 1961

Although grounded theory methodology is gaining prominence across various disciplines, some treat it as a mere mental exercise with little to assess how rigorous the data analysis method was engaged and whether the abductive preference is the best explanation for the phenomena. Grounded theory is a rigorous methodology for generating theory grounded in data by incorporating its intellectual engine: compare-and-contrast and abductive reasoning. Whenever one of these data analysis processes is engaged, so is the other. However, a systematic means must be used to assess how rigorous grounded theory's data analysis method was applied. Uncertainty about the quality of a grounded theory study will result in very few grounded theories gaining prominence and delaying or impeding theory verification despite the methodology incorporating two interdependent thinking processes that lead to discovering novel perspectives: abductive reasoning and constant comparison analysis. This allows ““theoretical capitalists” [to look] to the mass of “proletariat” [...] to test their teachers' work but not to imitate it” (p. 10, 11)<sup>1</sup>.

To address a lack of systematic procedures for assessing the depth and breadth of engagement in grounded theory's methodology, three criteria of trustworthiness are proposed: presenting the results of variation-finding, incorporating abductive discoveries, and integrating Tilly's<sup>2</sup> comparison framework —individualizing, variation-finding, universalizing, and encompassing comparison. Science-minded qualitative methodology practitioners can proactively adopt the suggested trustworthiness criteria to add rigor to their research. Alternatively, editors should reject submissions lacking rigor<sup>3</sup>. “One of the important roles of reviewers [and scholars] is to assess the scientific rigour of the studies from which authors draw their conclusions” (p. 498)<sup>3</sup>. This paper aims to support adding new trustworthiness criteria that could help peer reviewers and future analysts assess how rigorously grounded theory's data analysis method is engaged through Forde's<sup>4</sup> work. Examples used to explain Tilly's<sup>2</sup> four typologies will illustrate how integral abductive reasoning and constant compare and contrast are in grounded theory methodology. They have a symbiotic relationship; they are grounded theory methodology's intellectual engine.

Forde's<sup>4</sup> integrative macro-level grounded theory will be used to (a) support the argument for new trustworthiness criteria, (b) illustrate the rigorous engagement of grounded theory's data analysis method, and (c) illustrate Tilly's<sup>2</sup> four compare-and-contrast typologies.

## 2. Compare and Contrast

Comparing and contrasting is “one of the essential procedures of all sciences and one of the elementary processes of human thought” (p. 3)<sup>5</sup>. Comparison happens spontaneously, unguided, and undirected<sup>6</sup>. Humans receive and compare information subliminally<sup>6</sup>. Children can detect similarities at 4.5 months<sup>6</sup>. When processing information, people readily compare themselves to others.<sup>6</sup> This results from the “psychological presence of a comparison standard [...] about which we have abundant information available” (p. 2)<sup>6</sup>. Hence, comparative analysis generally involve “the spontaneous activation of information-rich standards” a person can access (p. 2)<sup>6</sup>. Comparisons play a role in analogy, categorization, heuristics, decision-making, perception, affect, and the self<sup>6</sup>.

In grounded theory methodology, a comparative analysis is used during the following processes: abductive reasoning, developing abductive discoveries, theoretical sampling, abstraction, coding, and while exploring, developing, and stabilizing theoretical codes and their relationship to their category and each other. Moreover, it allows the introduction of “additional explanatory variables” and the analysis of their relationship to different variables (p. 2)<sup>8</sup>. In the social sciences, like grounded theory, analysts compare people, places, ideas, and events.<sup>5</sup> Comparative analysis in grounded theory provides a better understanding of a phenomenon because it is more than descriptive. It entails analysis. Macfarlane cited De Tocqueville (1861, vol. 1, p. 359)<sup>5</sup>:

In my work on America ... though I seldom mentioned France, I did not write a page without thinking of her [and] placing her as it were before me. And what I especially tried to draw out, and to explain in the United States, was not the whole condition of that foreign society, but the point, in which it differs from our own, or resembles us. It is always by noticing likenesses or contrasts that I succeeded in giving an interesting and accurate description.

### 2.1. Compare and Contrast: What is it?

Comparison [...] is concerned with similarities only to penetrate more profoundly into the differences.

—Macfarlane, 2006 citing Pocock, 1961

Comparing and contrasting is not superficial like content analysis, which counts the frequency of words or concepts within a text. It entails breadth and depth of analysis that will lead to sorting “out the important similarities and differences,” from which we can conclude “after we have thought about any patterns they display” (p. 54)<sup>7</sup>. Comparative analysis is “the process of looking at similarities and differences in order to reveal important characteristics of two [or more] objects, systems, organizations, events, processes or concepts” (p. 53)<sup>7</sup>, with the aim of “explaining the reason similarities and variations exist [...] within a data collection for an accurate comparison” (p. 2)<sup>8</sup> — as comparative analysis assumes a “level playing field [...] that] is never level” (p. 609)<sup>9</sup>. Comparisons offer “some hint of ranking” (p. 611)<sup>9</sup>. Comparisons “are never neutral: they are inevitably tendentious, didactic, competitive, and prescriptive” (p. 5)<sup>10</sup>. Compare and contrast requires varying factors,

constant factors, underlying similarities, and a comparison unit of equivalent value to compare what is comparable<sup>5</sup>.

## **2.2. Comparative Analysis Types**

The unconscious thinker does not ask himself why he is comparing; and this neglect goes to explain why so much comparative work provides extensions of knowledge, but hardly a strategy for acquiring and validating new knowledge.

—Giovanni Sartori

Conscious engagement in comparisons makes it possible to “identify relevant factors for comparison, discuss similarities and differences [...] with respect to each of these factors,” investigate patterns in similarities and differences between subjects, if any, and make conclusions based on the findings (p. 53)<sup>7</sup>. The technique may yield a “greater and deeper understanding” of the subject being explored, and conclusions drawn from comparisons “can also help in designing a better system or process” (p. 53)<sup>7</sup>. There are several types of comparative analysis. Conventional comparisons focus on explicating differences or similarities<sup>8</sup>. Two strategies have been developed to identify similarities: empirical and conceptual<sup>8</sup>. The empirical strategy entails excluding some evidence as unremarkable to give more attention to evidence that shows similarities<sup>8</sup>. The conceptual strategy elevates the level of abstraction of existing similarities to a new starting point<sup>8</sup>, which is at a higher level of abstraction<sup>4, 11</sup>.

Open compare and contrast and focused compare and contrast are two techniques for deliberate comparisons<sup>7</sup>. The open compare and contrast method, or general comparison, aims to identify as many similarities and differences as possible. Open compare and contrast occur during the early stages of grounded theory’s data analysis method—comparing the first theoretical sample with the first two data-driven theoretical samples<sup>1</sup>. This type of analysis will increase the understanding of the explored subject. It will facilitate the emergence of hypotheses that guide the selection of theoretical samples and lead to focused comparisons. Focused compare and contrast analysis provides depth of understanding. It limits similarities and differences “to a relatively small set” (p. 55)<sup>7</sup>; this comparative analysis is suitable when the analyst has a “few specific objectives and tries to make a judgment based on the outcome of this process” (p. 55)<sup>7</sup>. In grounded theory, focused comparison primes theoretical sensitivity. It is instrumental during coding, abstraction, establishing theoretical codes, and as a transition to relational comparisons, exploring the relationship between theoretical codes and inter- and intra-category relationships. Unlike focused comparison, controlled comparison ignores the key similarity factor while comparing similar cases that differ in some factor to find other differing elements<sup>5</sup>—excluding the key similarity factors from the comparative analysis results in a better, more precise comparison.

The constant compare-and-contrast method of data analysis provides “a broad, rich, integrated, and dense grounded theory” (p. 256)<sup>1</sup>, particularly when enhanced with data analysis strategies and emerging questions that add depth. By contrast, a superficial comparative analysis leads to themes used as theoretical codes, few and superficial similarities and differences, “rough and imprecise judgments of similarity or difference,” [...] and few implications of similarities and differences that allow us to draw informed conclusions (p. 4)<sup>7</sup>.

### **2.2.1. Tilly’s Four Typologies**

Tilly<sup>2</sup> discussed four comparative analysis typologies—individualizing, universalizing, variation-finding, and encompassing.

- Individualizing comparison: A “purely individualizing comparison would treat each case as unique — taking up one instance at a time, and minimizing its common properties with other instances” (p. 81)<sup>2</sup>. This technique “build[s] on the strengths of historically grounded social science. [Hence], one of the greatest contributions social scientists can make is to establish exactly what is particular about a particular [...] experience” (p. 88)<sup>2</sup>.
- Universalizing comparison: A “pure universalizing comparison [...] identifies common properties among all instances of a phenomenon” (p. 81)<sup>2</sup>. Universalizing “aims to establish that every instance of phenomenon follows essentially the same rule” (p. 82)<sup>2</sup>. The strength of universalizing comparison is that it reduces the need to create “separate explanatory frameworks for each setting [and] sharpens our sensitivity to other similarities and differences among settings” (p. 145)<sup>2</sup>.
- Variation-finding comparison: Establishes “a principle of variation in the character or intensity of a phenomenon by examining systematic differences among instances” (p. 82)<sup>2</sup>. Variation-finding comparison (i.e., between cases, phenomena, societies, processes, or systems) helps with making sense of “social structures and processes that express a common principle of causality but occur in different forms (p. 146)<sup>2</sup>.
- Encompassing comparison: Places different instances at various locations within the same system, on the way to explaining their characteristics as a function of their varying relationships to the system as a whole” (p. 83)<sup>2</sup>. Encompassing comparisons have dual advantages: the interconnectedness of separate experiences, and the grounding of “analyses explicitly in historical context of the structures and processes they include” (p. 147)<sup>2</sup>.

### **3. *Abductive Reasoning: What is it?***

Abduction permeates grounded theory methodology. It starts with selecting coding techniques to incorporate during the constant comparison method and continues post-publication<sup>1</sup>. Abduction incorporates two types of inferential reasoning: inductive and deductive reasoning<sup>12</sup>. Abductive reasoning may call for higher-order thinking that finds the most plausible explanation. It is a standard method of making inferences that enable lay and scientists alike to make novel discoveries<sup>13-15</sup>. Getting to the most plausible explanation is simplified if the analyst resorts to scientific knowledge, experience, and higher-order thinking skills. In pragmatism, the school of thought from which the term abduction emerged, something is “true” if it works in a specific situation, regardless of how the explanation was attained<sup>15</sup>. There is no alternative to navigating the grounded theory methodology without abductive reasoning. Abduction is engaged in determining the general topic of interest, the theoretical sample to select next— often based on data, intuition, or curiosity, grounded theory’s data analysis method— the simultaneous selection of theoretical samples, constant comparison— which may be enhanced by another data analysis strategy— coding, abstraction, and conceptualization. Forde (p. 58)<sup>4</sup> explained abductive reasoning through puzzle analogy:

The placement of each puzzle piece is based on inferences about the shape, size, and image of the puzzle pieces, deductive reasoning, and the available locations on the puzzle board in finding feasible options or the best fit. Throughout the puzzle-solving process, the person completing the puzzle engages in higher-order thinking punctuated with occasional leaps of [...] intuition. The placement of pieces is done considering the [whole] puzzle, the puzzle piece in the person's hand, and the adjoining puzzle pieces the individual puzzle piece must fit into. At both stages of abductive analysis, evaluation occurs before selection from available options and after the placement to determine whether the chosen option is the best fit.

Abductive reasoning has its defects. Its product is only as sound as the analyst's logic. Abduction may lead to cognitive biases. Inductive reasoning is prone to ecological fallacies, unequal analogies, and faulty cause-and-effect reasoning. Nevertheless, including and comparing abductive discoveries and variations, recognizing personal biases, negative cases<sup>22</sup>, multiple perspectives, methodological self-consciousness, delaying the literature review, and conducting a post-data analysis literature review can mitigate bias.

### ***3.1. The Intersect: Abduction and Hypotheses***

Abduction and the constant compare method intersect and become evident when answering new emerging questions/hypotheses, theory construction, and theoretical coding, which involves abstraction). Emerging questions determine the direction of the study, which enhanced data analysis strategy to engage, and which theoretical sample to select next. They guide the formulation of hypotheses and help determine which level of abstraction in the theoretical propositions to pursue. If the questions are pursued, they become hypotheses that may lead to abductive preferences and discoveries. This is why grounded theory relies on “many hypotheses synthesized at different levels of generality” (p. 103, 104)<sup>1</sup>. They can generate and plausibly suggest “many categories, properties, and hypotheses about general problems (p. 103, 104)<sup>1</sup>. These “properties may be causes [...] conditions, consequences, dimensions, types, or processes” which should result in an integrated theory (p. 103, 104)<sup>1</sup>. The following hypotheses resulted in abductive discoveries and extended abductive preference.<sup>4</sup> As a result of the research, the following questions emerged:

- Are there two values in the founding documents [that] separate the values of the masses from those of the elites?
- Are disempowerment concepts part of a process or strategy that stifles democratic change, and what, if anything, reinforces disempowerment behaviors?
- Do [the] theoretical codes contribute to or detract from a rich democracy or oppression?
- How do the first principles of democracy in the American founding documents help us understand the process of democratic social change?

Abductive discoveries can help determine the depth and breadth of analysis and verify the use of various comparative typologies during constant comparison.

### ***3.2. The Intersect: Abduction, Comparisons, and Abstraction***

It will become evident why variations and abductive discoveries must be included for peer reviewers and readers to assess the rigor of grounded theory's data analysis method. Coding becomes more involved because it involves engaging in abstraction. The following is a summary of theoretical coding and abstraction processes.

- The analyst analyzes words and phrases during data analysis.
- Words and phrases are visible but only sometimes perceived the first time they appear. There is only low awareness during this time unless what emerges differs from what the analyst expected to find among the data (e.g., the word “hope” among data composed of numbers). These occurrences make variation-finding valuable for analysts during data analysis and theory construction.
- The second reappearance of a word or phrase might remain unnoticed. A prudent analyst will document and ignore the occurrence later if it does not appear in other documents.
- The third time the same word or phrase emerges, it arouses the analyst’s interest and has likely been recorded. If the analyst did not record prior emergence, prior occurrences will be sought and documented.
- When the fourth reappearance occurs, the analyst thinks there might be a pattern and gets full attention. This process is iterative.
- After establishing a pattern, the analyst attempts to understand the emerging content. Sense-making involves constant comparison, abductive reasoning, and abstraction.

The following is the cognitive process for abstraction during theoretical coding.

### **1. *Compare and contrast***

Comparison occurs when the analyst looks at what has emerged and links it with experience, knowledge, or both to see what matches. For example, if the word tail emerges with high frequency, the analyst thinks of all the meanings of tail. Depending on the text and subject being explored, the analyst considers the tail's type, color, size, and how, when, or who engages in tailing. All varieties of tails are compared with the substantive content of theoretical samples. Comparative analysis leads to abductive reasoning when analyzing data, not describing data.

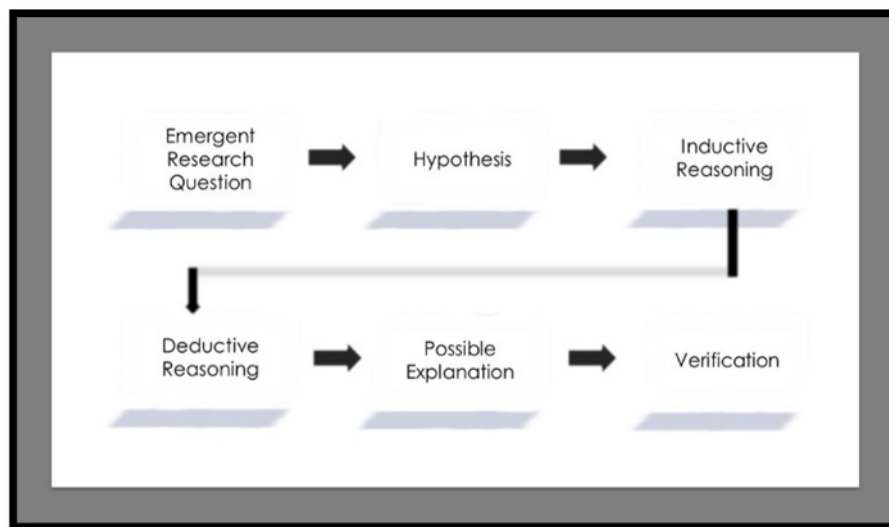
### **2. *Abstraction***

Analysts will most likely see particulars in the substantive data. In sense-making, the analyst strives to formulate a single concept to represent particulars, without which generalization cannot occur<sup>16</sup>. Abstraction involves deconstruction, peeling away layers of meaning to get to the essence, which all particulars being considered have in common. This process entails delving in and out of inductive and deductive reasoning. For example, if the theoretical codes are “tails” and “hair,” the concept might go from particular to general, Snoopy (personal dog), Poodle (a breed of dog), to Canine (all dogs), Animals (all animals with a tail and hair), to Creatures (highest level of abstraction) if there are human and different animals’ hair among the tails and dog hair. A concept in grounded theory “is the naming of an emergent social pattern grounded” in the substantive data (p. 24)<sup>17</sup>. For Glaser<sup>17</sup>, the “most important property of conceptualization for GT is that it is abstract of time, place, and people” (p. 25)<sup>17</sup>. Abstraction is engaged in raising the level of generalization of the theoretical codes while retaining their meaning. Raising the level of abstraction is crucial only if the analyst aims to construct a midrange or broad-range grounded theory. According to Glaser<sup>17</sup>, many analysts struggle to elevate ideas that transcend time, place, and people (p. 25)<sup>17</sup>. He believed that “while concepts are ‘everything’ in GT, many researchers find it hard to stay on that level to relate them to each other” because it “requires an ability they may not have fully, if at all, developed” (p. 25)<sup>17</sup>.

This challenge may have more to do with culture and perceptual processing<sup>18-20</sup> than an ability learned at the university. “Westerners in general hold an analytic worldview that emphasizes the independence of individual objects, whereas East Asians tend to adopt a holistic view, emphasizing that the world is composed of interrelated elements” (p. 837)<sup>18</sup>. Holistic thinkers, who most like to see the whole picture versus its parts first, will more readily perceive higher levels of abstraction and emphasize relationships, similarities, antecedents, and consequences of events<sup>20</sup>. They use inductive reasoning for various relationship-based classifications “such as temporal, spatial, causal, or functional relationships” (p. 9)<sup>20</sup>. Regardless of the analyst’s thinking style, raising concepts to a higher level of analysis allows a grounded theory to be applied across multiple levels of analysis and knowledge domains.

### 3. *Abductive reasoning*

Abductive reasoning will be engaged at some point during constant comparison. Abduction is not simply applying prior knowledge to figure something out. The abduction explains the hypothesis. It is the culmination of constant comparison during reasoning. It is "Inference to the Best Explanation" (p. 1)<sup>21</sup>. Stated differently, abduction is “the place of explanatory reasoning in justifying hypotheses” (p. 1)<sup>21</sup>. Following the example, the abduction is “Creatures” if the highest level of theoretical code is preferred (see Fig. 1).



**Fig. 1** *Abductive Reasoning Process*

### 4. **Macro-Level Grounded Theory: Example**

Forde’s study aimed to construct a macro-level grounded theory of social movement and social change on America’s transition to democracy that resulted in the Revolutionary War<sup>4</sup>. The transition was a psychologically driven phenomenon motivated by feelings of disempowerment and demoralization caused by anti-democratic (e.g., social, economic, legislative, trade, political, and military) strategies leveraged by Great Britain. The Founders’ counterstrategy for social change was a motivational process that built momentum at each stage: knowledge, fairness, human dignity, hope, unity, and security. The theory was developed using Charmaz’s<sup>22</sup> constructivist tradition of grounded theory, a methodology created by Glaser and Strauss<sup>1</sup>. The principles of grounded theory

were followed with high fidelity. The literature review was delayed, the theoretical framework was selected post-hoc, theoretical sampling and data analysis were engaged simultaneously, and the theoretical codes were raised to the highest abstraction<sup>1, 17</sup>.

Additionally, the research questions and definitions emerged from the substantive data, abductive discoveries were included in the study, qualitative methodology and Charmaz and Thornberg's<sup>23</sup> trustworthiness criteria were met, copious memos were written, and methodological self-consciousness was engaged. The controlled comparison technique bound the sample to the American founding documents. However, the transition to democracy was best explored through cross-level comparison using the collection, with the researcher understanding that other historical documents could be drawn from, if necessary. The theoretical samples comprised the Articles of Confederation, the Declaration of Independence, The Federalist Papers, and the United States Constitution—the Bill of Rights was treated as a separate document during theoretical sampling and coding to explore America's transition to democracy. This type of comparison gives the analyst control over extraneous factors observed and theorized<sup>24</sup>. It allows for within-case variation analysis and transferability<sup>24</sup>. Controlled comparison in Forde's<sup>4</sup> study emphasized the integration and internalization of self-determination from the Founders to the people, the use of power during social interaction, and the lived experiences of colonists and Great Britain's monarch. A controlled comparison can “illuminate the world's great convergences and divergences across nation-states in a manner that no other method can surpass” (p. 1)<sup>24</sup>.

This work was chosen as an example because of its fidelity to the principles of grounded theory, access to the study, and personal experience with (a) grounded theory's constant compare-and-contrast data analysis method, (b) high-level abstraction using Aristotle's first principles, (c) abductive reasoning, and (d) multiple data analysis strategies: Clarke's et al.<sup>25</sup> situational analysis, Goffman's<sup>26</sup> dramaturgical analysis, holistic and systems thinking, perspective-taking, and Derrida's deconstruction<sup>27</sup>. This work also emphasizes the significance of culture, educational background, and work experience in producing abductive discoveries and applying the abductive preference, the grounded theory.

#### **4.1. Data Analysis Techniques**

Data analysis techniques were integrated into grounded theory's constant comparison method. This was done to ensure the construction of a grounded theory, add depth and breadth to analysis, and comprehend democratic social change broadly and narrowly. This was done by engaging in holistic and systems thinking to understand democracy and what triggers the transition to democracy. A holistic perspective, which encompasses a broader, multiple-system lens, requires focusing on variations and similarities during constant comparison. Systems thinking requires looking at democracy as a system with policies, people, and events as part of that system. In Forde's<sup>4</sup> study, democracy as a system was bound by the founding documents and reified and explored. Perspective-taking was also engaged in understanding democracy psychologically through the experiences of the people, the Founders, and the king. It helped explore political language, literal meaning, and the spirit of the law as it relates to democratic governance. Dramaturgical analysis is the presentation of self as we want others to see us<sup>26</sup>. The analyst must simultaneously become the actor and their audience by becoming aware of how each person wants to present themselves and how the audience receives that presentation of self. The presentation of the Founders, the king, the people, and democracy was explored. Familiarity with others' cultures helps interpretation. It is an experience of



becoming. Because this type of analysis engages the researcher emotionally, it adds a dimension of perspective to the analysis. Another strategy included in the constant comparison was power analysis. It was essential to look through the lens of all affected persons. Moreover, two sensitizing concepts that give a general sense of the phenomenon<sup>28</sup> emerged from the data. In addition to assisting with developing democratic values and ideas, they also contributed to creating the subcategory code, which was later abstracted to the highest possible level without losing meaning<sup>17</sup>.

#### **4.2. The Study's Trustworthiness**

Charmaz's<sup>22</sup> trustworthiness criteria, credibility, originality, resonance, and usefulness were met<sup>4</sup>. A deliberate attempt was made to ensure the dependability of the study's findings. The theoretical codes, their level of abstraction, the number of abductive discoveries created with them, and the application of social change theory to three levels of analysis signal to readers that grounded theory's compare-and-contrast analysis method was not only engaged but also exploited by Forde<sup>4</sup>. The coding tables in the Appendices confirm individualizing comparison, and the demoralization process confirms the use of variation-finding comparative analysis. Universalizing and cross-level comparisons<sup>29</sup> led to higher-level abstraction<sup>4,11</sup>. Encompassing comparison is evident in the abductive preference and discoveries.

Some examples of trustworthiness in Forde's<sup>4</sup> work include the polytheoretical framework of power, data grounded in the substantive content, the theoretical codes that appear within and across theoretical samples, transferability, the support of motivational theories for the empowering concepts, negative cases, and ample sample size. The result was an integrative macro theory of social change. Support for the concepts includes motivational and psychological theories (Maslow hierarchy of needs, self-determination, equity, hope, intrinsic motivation, and others) and sociology theories (social movement theories, tribalism, social dominance, reference groups, ostracism, stigma, social networks, strategic communicative action, and Foucault's power theory, Bourdieu's field power, among others). Post-theory construction led to the review of the literature to verify the originality and plausibility of the grounded theory. The guiding assumption for generalizing the framework: The processes were woven within the US founding documents, led to American independence, and leveraged against racial and ethnic minorities, paupers, vagabonds, and fugitives from justice. The framework is supported by incrementalism, the United States National Security Strategy Reports, protectionist policies (e.g., Chinese Exclusion Act, Japanese internment act, Mexican Exodus, Red Scare of the 1920s and 1950s), and democratic social change (e.g., suffrage rights, LGBTQ+ rights (see Don't Ask, Don't Tell [DADT] and Defense of Marriage Act [DOMA]) and civil rights for minorities). Later, support for the framework was found in politics when the framework was applied to speeches by leaders of diverse political ideologies (see Appendix H in Inesia-Forde, 2023)<sup>11</sup>. It can be inferred that the United States extended the framework as a leading nation and influential member of the United Nations as it was found at the global level of analysis: All 193 Member States signed the UN Declaration of Human Rights<sup>4,30</sup>. The principles are among democratic values in the UN Declaration of Human Rights<sup>11</sup> (see Appendices in Inesia-Forde's, 2023)<sup>30</sup>.

Abductive reasoning resulted in the abductive preference, America's transition to democracy, a macro level democratic social change theory, and five other social change theories presented as abductive discoveries: (a) principles of democracy, (b) demoralization framework, (c) normative framework for public servants, (d) a three-

concept conceptual framework found in the code of ethics of professional organizations (e.g., American Psychological Association, American Medical Association, American Bar Association), and (e) the paradoxical framework of American democracy. The transition to democratic social change theory was applied to interpersonal relationships prone to power imbalances: school bullying, workplace violence, intimate partner violence, and marketing, where they can be measured empirically. The phenomenon is seen through the lens of those leveraging disempowerment strategies and feeling the effects of those strategies, as well as those leveraging empowerment strategies and feeling the effects of those interventions. Professionals and people who have experienced intimate partner violence, school bullying, or workplace violence can intuitively identify the stages in the social change processes. These findings would not have been possible without pursuing hypotheses that emerged during the constant comparison method and abduction.

## **5. Applying Tilly's Typology**

Integrating Tilly's<sup>2</sup> typology into grounded theory's constant comparison method will make data analysis more systematic and rigorous and lead to securing Glaser and Strauss's aim of theory expansion<sup>1</sup>. Glaser and Strauss<sup>1</sup> developed the groundwork for constructing substantive and formal theories grounded in the data. Bryant and Charmaz<sup>22</sup> supported applying theoretical codes to abductive discoveries. While describing the four comparison typologies succinctly, Tilly needed to appreciate their use as foundational in grounded theory methodology. The use of similar techniques discussed by Tilly led to a rigorous process and a comprehensive, grounded theory of social change based on America's transition to democracy, more than 50 years after Glaser and Strauss developed the grounded theory methodology<sup>31</sup>. Few grounded theory methodologists have discussed the importance of integrating various comparative analysis typologies during grounded theory's constant compare method or the fact that certain phenomena will unlikely lead to the construction of midrange and broad-range theories regardless of whether the analyst "follow[s] the concept" (p. 40)<sup>31</sup>, is a "voracious readers on all types of issues" (p. 39)<sup>31</sup>, makes attempts to stretch the grounded theory "across enough areas to suggest further application" (p. 38)<sup>31</sup>, or "start[s] with knowledge of theories" (p. 39)<sup>31</sup>.

### **5.1. Individualizing Comparison**

Individualizing is more than simply listing terms or phrases without analyzing the data. It involves the recognition of individual characteristics (e.g., species) that make a thing unique versus categorizing based on a group's (e.g., genus) shared essence, allowing the analyst to see various forms of a particular phenomenon. Individualizing helps with concept analysis during universalizing, where one engages in comparative analysis to find a thing's essence.<sup>16</sup> The importance of individualizing comparison is that it applies concepts "discovered by comparing many incidents, and incidents to the generated concept, which shows the pattern named by the category and the subpatterns which are the properties of the category" (p. 24)<sup>17</sup>. For example, almost infinite examples of fairness and respect for human dignity exist. Knowing or knowledge can also take various forms, albeit fewer than fairness and respect for human dignity.

If one were to look for individual comparison in Forde's<sup>4</sup> work, all instances of fairness would be treated as unique before being labeled as such. For example, the Eight Amendment of the United States Constitution would be coded as (1) Excessive bail shall not be required, (2) nor excessive fines imposed, (3) nor cruel and unusual punishments

inflicted. Another case is the Sixth Amendment of the United States Constitution<sup>32</sup>: “(1) the accused shall enjoy the right to a speedy (2) and public trial, (3) by an impartial jury [...] and to (4) be informed of the nature (5) and cause of the accusation; to (6) be confronted with the witnesses against him; to (7) have compulsory process for obtaining witnesses in his favor, and to (8) have the Assistance of Counsel for his defence.” During individualizing comparisons, the analyst can record unique examples of fairness: (1) no excessive bail, (2) no excessive fines, (3) no cruel and unusual punishments, (4) no delays in a request for a speedy and public trial, and the like. If the United States Constitution<sup>32</sup>, the Declaration of Independence<sup>33</sup>, The Federalist Papers<sup>34</sup>, and the Articles of Confederation<sup>35</sup> were introduced as cases, using fairness as the similarity factor, their unique similarities would become obvious (separation of powers; the right of the people to institute new government; protection against the tyranny of the majority; full faith and credit in each state, respectively). The last example of individualizing comparison highlights its purpose and importance.

## **5.2. Variation-Finding Comparison**

Often you get the best insights by considering extremes-by thinking of the opposite of that with which you are directly concerned. If you think about despair, then also think about elation; if you study the miser, then also the spendthrift.

—Wright Mills

Comparisons bear conscious consideration and discussion because the rationales are “‘not intuitively evident,’ at least not necessarily so” (p. 208)<sup>36</sup>. Wright Mills opined: “[T]o stimulate[s] mental activity [...], it is more economical to begin by constructing ‘polar types’ [...] along various dimensions” (p. 102)<sup>5</sup>. While economical, variation-finding does not necessarily lead to direct opposites. Besides, there is the danger of introducing confirmation bias into the process and, later, the findings. The better approach is to allow opposites to emerge. Variation-finding “can be fruitful in generating questions” (p. 101)<sup>5</sup>. Variation-finding occurs at the conceptual level during abstraction. It also occurs when comparing events, systems, cases, and other factors. Too often, analysts decide to focus on similarities and ignore patterns of differences because the emerging variations are deemed insignificant<sup>8</sup>. Differences may lead to, link, or trigger taken-for-granted similarities. They do not appear as only curiosities. Hence, variations may elevate the importance of emerged similarities. Variation-finding differs from negative cases. While negative cases are those instances that deviate from the emerged pattern used in theorizing about the observed phenomena<sup>3</sup>, variation-finding seeks diverse perspectives and experiences within the data to understand the phenomenon explored comprehensively<sup>3</sup>. The results of the variation finding will allow readers to assess the use and depth of engagement in grounded theory’s data analysis method, the coding and data analysis technique, and the relationship between similarities and variations.

Constant comparison, abductive reasoning, and variation-finding are crucial in pairing concepts and categories (see Fig. 2). In Forde’s<sup>4</sup> work, the focus on similarities and differences was constant. Variations were noticed first because of the strategic choice to start with The Federalist Papers, a collection of essays that differ from the Bill of Rights and the Declaration of Independence. When disempowerment emerged, memo-writing and methodological self-consciousness followed. Democracy was conceptualized as empowerment. Empowerment and disempowerment became sensitizing concepts. Each category had six subcategories.



**Fig. 2** *Variation-Finding.*

Variation-finding is not restricted to finding variation in the substantive content; it applies to abstraction and theoretical concepts. Conceptualization requires a commitment to constant comparison in finding a concept not limited by nuances, ambiguities, or loss of meaning. For example, knowledge was preferred over education and truth. Although education leads to knowledge, and knowledge can be equated with truth/fact, knowledge captures truth, fact, education, and pragmatic “truth.” Truth is too abstract, and a particular perspective of how truth is determined could affect our understanding of what is accurate. Unity was preferred over solidarity because solidarity implies a type of bond based on a specific shared interest and has political implications. Unity implies solidarity but removes the requirement of a single specific shared interest, and it is a neutral concept.

Forde<sup>4</sup> sought variations between the founding documents, strategies of power leveraged by Great Britain against the Founders and vice versa<sup>37</sup>, those used by the Founders to govern, and strategies of social change. The disempowerment concepts support engagement in variation-finding. They sensitized theory construction through the emergence of a series of hypotheses. Variation-finding led to two culturally distinct values and transformational processes that were leveraged as power strategies: one sustainable and democratic, and the other unsustainable and anti-democratic. Both processes can empower and disempower. However, the demoralizing process could stifle extrinsically motivated individuals' personal, financial, political, and social progress. It could trigger social change at all levels of analysis (e.g., women’s rights, child labor laws, LGBTQ rights, and religious freedom). The approach led to the understanding that the type of institution, status, and social class determines which empowering and disempowering tactic is leveraged. This was evident pursuing the hypothesis of power strategies in the founding documents (e.g., power to the people, state sovereignty versus national sovereignty, factions, and separation of power) and relationships (e.g., intimate partners, employer-employee, teacher-student, and peer-on-peer). Variation-finding also uncovered the meaning of democracy for the people versus the government.

### **5.3. Universalizing Comparison**

In the previous example, the text of the Sixth and Eighth Amendments could be coded following the same rule of similarity in several different categories from a higher to a lower level of abstraction using the following categories: Fairness, United States Constitution, and Bill of Rights to universalize comparisons. Universalizing is the difference between a substantive, macro, and grand theory. This comparative analysis is engaged to raise the level of abstraction so that only the essence of the similarity factor is captured. The aim of universalizing is more about conceptualizing and engaging in encompassing comparison later than comparing existing abstractions in theoretical samples. Forde<sup>4</sup> engaged Aristotle’s<sup>16</sup> first principles to raise the level of abstraction. Knowledge, nativism, unity, and security were broadly conceptualized to apply the grounded theory to the highest level of analysis, a comprehensive theory of social change. Knowledge encompasses pragmatic “truth,” which comprises scientific knowledge, experience, intuition, and other ways of knowing. Nativism describes all in-group

versus out-group phenomena (e.g., identity groups). Unity includes people who join a group for a shared interest or personal reasons. Security captures various dimensions of well-being (e.g., financial, physical, psychological, and spiritual). While the strength of universalizing comparison is sensitizing others to similarities and their application across different settings (p. 145)<sup>2</sup>, it is also its weakness. Scholars may “legitimately have different terminologies [or] use the same terminology for different domain concepts” (p. 1-2)<sup>38</sup>. Macro-level theories are highly abstract and, therefore, apply in various settings. They may require terminology from a specific field or substantive area for added value. This is understandable since “a grounded substantive theory that corresponds closely to the realities of an area will make sense and be understandable to the people working in the substantive area” (p. 239<sup>1</sup>; see Inesia-Forde<sup>39,40</sup>).

#### **5.4. Encompassing Comparison**

Pickvance<sup>8</sup> classifies encompassing as a subtype of variation-finding, as encompassing comparison attempts to capture a broader range of variation from diverse cases<sup>41</sup> aimed towards constructing midrange or grand theory—another aim of grounded theory<sup>1,17</sup>. Encompassing comparison can only be achieved if the theoretical codes are highly abstract<sup>17</sup> and the phenomenon of interest can be applied more broadly. Forde<sup>4</sup> explored the two categories (empowerment and disempowerment) from different perspectives (e.g., democracy, values, and power strategies) at different analysis levels. A series of grounded theories were developed that led to the construction of the abductive preference<sup>4</sup>, supporting Glaser and Strauss’s<sup>1</sup> assertion that analysts can create a grounded theory from several substantive theories. For example, in attempting to find the most encompassing event, power and its effects were explored at different levels: between colonists and Great Britain in the Declaration, the colonial government reduced the power of the people by creating factions and that of government through separation of power in The Federalist Paper<sup>34</sup> and US Constitution<sup>32</sup>, in reducing the value and power of “paupers, vagabonds, and fugitives from justice” in the Articles of Confederation<sup>35</sup>, and reducing the power of the state to protect the power of individuals in the Bill of Rights. During the early part of theory construction, given that social transformation can take place at any level of analysis, the principles were considered Jeffersonian principles (micro level), the cultural values of the Continental Congress (meso level), and later as the social movement and political strategy that led to America’s independence (macro level). Support for encompassing comparison is evident in the abductive discoveries and their relationship to the abductive preference. However, “[m]ost writers on methodology DO NOT have a theoretical clue of what it means to be abstract of time, place, and people” (p. 25; stressed in the original)<sup>17</sup>, which affects universalizing and encompassing comparative analysis.

#### **6. Current Trustworthiness Criteria**

The rigorous engagement of the data analysis method determines scientific rigor<sup>1,3,17,22,43-45</sup>. What determines scientific rigor has been left for the founders of the grounded theory tradition to determine<sup>22</sup>. The trustworthiness criteria are questions analysts consider when assessing the quality of their grounded theory, while others are less subjective and part of the qualitative methodology standard of rigor. Grounded theory relies on its constant compare-and-contrast method to support and ground the theory in data. Comparative analysis is a primary cognitive function that plays a significant part in decision-making<sup>5-7</sup>. It is the data analysis method used in all traditions of grounded theory methodology. The issue is that while Glaser and Strauss<sup>1</sup> discussed or implied incorporating the proposed trustworthiness criteria, there is little indication that analysts engaged the data analysis process rigorously based on current trustworthiness criteria. Moreover, each tradition has different trustworthiness criteria, and not all include questions about variation-finding and its results or abductive discoveries. Novices and more experienced grounded theorists may not understand how to conduct comparative analysis (e.g., They engage in comparing codes with codes versus the raw substantive content in theoretical samples)<sup>31</sup>.

Classical grounded theory “tied quality to making new theoretical contributions,” arguing that “adhering to canons of objectivity, validity, reliability, and replicability would inhibit theorizing” (p. 310)<sup>23</sup>. A high standard of rigor for methodology

can be met by following classical grounded theory's standard of objectivity and research process as discussed in their book<sup>1</sup>: the research question must emerge from the content, delaying the literature review, theoretical sampling, raising the level of abstraction of theoretical codes<sup>17</sup>, constant comparisons, theory grounded in the data, abductive discoveries, variation-finding, and memo-writing<sup>1,17,22,42</sup>. The tradition calls for vivid details and multiple comparison groups to meet the credibility criterion<sup>23</sup>. It is concerned with generalizability and control—the ability of users to understand their social reality and bring about social change<sup>1,23</sup>. Later, Glaser introduced four other quality criteria: workability, relevance, fit, and modifiability<sup>23</sup>.

Corbin and Strauss<sup>43</sup> increased the standard of trustworthiness for assessing the rigor of the methodology's engagement. Their criteria assess the research process and the empirical grounding of the findings. The following are excerpts of questions by Corbin and Strauss (p. 425, 426)<sup>43</sup> to assess the research process:

- How was the original sample selected? What grounds (selective sampling)?
- On the basis of what categories did theoretical sampling proceed? That is, how did theoretical formulations guide some of the data collection?
- What were some hypotheses pertaining to conceptual relations (that is, among categories), and on what grounds were they formulated and tested?
- Were there instances when hypotheses did not hold up against what was actually seen? How were these discrepancies accounted for? How did they affect the hypotheses?
- How and why was the core category selected? [...] On what grounds was the final analytic decision made?

The following questions are excerpts from their criteria to assess the quality of the empirical grounding of the findings.

- Are concepts generated?
- Are concepts systematically related?
- Are there many conceptual linkages and are the categories well developed? Do they have conceptual density?
- Is there much variation built into the theory?
- Are there broader conditions that affect the phenomenon under study built into its explanation?
- Has “process” been taken into account?
- Do the theoretical findings seem significant and to what extent?

This tradition asks questions that allow scholars to rule out bias, assess abductive reasoning, and assess how rigorously the constant compare-and-contrast method was engaged. Reviewers and readers can follow the logic through the analyst's lens.

By contrast, Charmaz's<sup>22</sup> constructivist grounded theory's trustworthiness criteria are credibility, originality, usefulness, and resonance. Scholars are expected to “judge the usefulness of our methods by the quality of our final product” (p. 182)<sup>22</sup>. To assess credibility, She asks the analyst if there were “systematic comparisons between observations and between categories” (p. 182)<sup>22</sup>. To meet the principles of grounded theory, Charmaz<sup>22</sup> wants the analysts to assess if the grounded theory reflects the substantive area and is generalizable. In the past, she advocated abductive discoveries<sup>22</sup>.

While collectively, the trustworthiness criteria bring the analyst a step closer to scientific rigor, they are inadequate for assessing the rigor of the research process. Peer reviewers and readers (a) must assume the analyst engaged in variation-finding and there was no abductive discovery if none is included or mentioned, (b) the analyst attained the highest level of

abstraction, and (c) attempts were made to move beyond a substantive theory to a formal or broad-range theory. Given Glaser's criticism of grounded theorists and methodology writers, these assumptions may challenge peer reviewers and analysts<sup>17</sup>.

## 7. Conclusion

Changes come about because of the development of our knowledge base and perspectives [...] As new theoretical perspectives are developed, they [change] our perception about what we see—and the world of our participants.

—*The Changing Face of Qualitative Inquiry*, Morse, 2020

Grounded theory founders agree on the need for variation-finding and drawing “links between larger collectivities or institutions and individual lives” (p. 183)<sup>22</sup> to move from substantive to formal grounded theory. Glaser and Strauss discussed variation-finding at the conceptual level, the application of the grounded theory, and “among comparative groups to compare them based on as many relevant diversities and similarities in the data as he can find” (p. 56)<sup>1</sup>. Like Glaser and Strauss<sup>1</sup> and Corbin and Strauss<sup>39</sup>, Charmaz<sup>22</sup> related variation-finding to theoretical sampling and “variations within a process” (p. 109)<sup>22</sup>. The requirement for grounded theory analysts to raise the level of abstraction by all traditions is a principle that leads to applying the grounded theory across substantive areas<sup>1,22</sup>.

Judging and choosing in grounded theory occur throughout the data analysis process, theory development, abductive discoveries, and applying the grounded theory. The constant comparison technique does not “guarantee that two analysts working independently with the same data will achieve the same results” (p. 103)<sup>1</sup> because it too is “a matter of judging and choosing” (p. 609)<sup>9</sup> and “flexibility that aids the creative generation of theory” (p. 103)<sup>1</sup>. To make data analysis more systematic and transparent without affecting flexibility and creativity, there is a need for additional trustworthiness criteria to assess the judging and choosing that could affect the rigor with which analysts engage grounded theory's data analysis method. Three criteria are suggested: abductive discoveries, the results of variation-finding, and integrating Tilly's<sup>2</sup> four comparison typologies, or comparable data analysis techniques, in grounded theory's constant comparison data analysis method. Forde's<sup>4</sup> grounded theory study serves as an example and the argument for the rigor with which rounded theory methodology can be engaged. Adopting the criteria will contribute to grounded theory's systematic data analysis method and help novice researchers engage the methodology rigorously. Moreover, they will give analysts the impetus to exploit grounded theory's constant compare-and-contrast method, reduce bias, and give access to the research community to assess the judging and choosing of similarities, variances, and concepts. The new criteria are necessary to achieve scientific rigor and meet trustworthiness refinements proposed by Lincoln and Guba, Glaser and Strauss, Charmaz, and Corbin and Strauss<sup>1,22,43-45</sup>.

Trustworthiness assessments often rely on deliberate comparative analysis to determine the authenticity of a study. A comparative analysis between the result of variation-finding and the theoretical codes is important for establishing confidence in the quality of the constant comparison data analysis method and abductive reasoning. Including the results of variation-finding serves to confirm that variation-finding was engaged. Grounded theory's intellectual engine should be exploited, not eroded. Theoretically sensitive analysts can use themes discovered during thematic analysis to create a grounded theory, albeit less dependable<sup>1</sup>. Suppose the final product is the standard to judge the quality of a grounded theory<sup>22</sup>. Scholars might also forgo engaging in grounded theory methodology and return to the logico-deductive method<sup>1</sup>. However, science is fundamentally about systematic methods to achieve scientific rigor. “Change comes about because [...] challenges about the rigor of qualitative inquiry continue[s], and inappropriate “solutions” continue to plague us, demanding our response to maintain the integrity of our methods. These changes jar us out of complacency” (p. 2)<sup>46</sup>.

What started with two deleted posts soliciting feedback on the trustworthiness criterion in V. Martin's Grounded Theory Facebook group has now entered the annals of academia for discussion. To conclude with the last version of the deleted post:

Given GTM's compare-and-contrast method of data analysis, scholars who use any tradition of grounded theory should logically produce two [overarching] categories, depending on the depth of analysis. If this is true, and I think this logic is sound—compare and contrast calls for looking for differences and similarities—shouldn't those codes be included with our work as a criterion for rigor? I've researched to see if anyone touched on this subject and haven't found anything on it. If anyone knows where this has been discussed, please share it with me. I appreciate any help you can provide.

—November 19, 2024

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