Measuring and Understanding Trust: A Journey Through Qualitative and Quantitative Methods

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Abstract

This paper emphasizes the divergences in quantitative and qualitative methodological approaches when exploring trust relationships in school units. We focus on how participants responded and how the results were interpreted. This study, based on such design, questionnaires, and semi-structured interviews to understand trust among teachers and headteachers. Quantitative and qualitative methods have different approaches to study trust relationships in school units, with advantages and limitations. In a quantitative methodology, numerical data are collected by structured tools, such as closed-ended questionnaires. It enables researchers to process extensive data and provide statistically significant results and generalizable trends. The quantitative method helps grasp the overall picture, gives a glimpse of trust in the school environment, and provides the opportunity to compare schools and groups. However, through the questionnaire might be unable to highlight the deep-seated causes and the subtle interactions influencing trust. Otherwise, qualitative methodology underlines an in-depth understanding of phenomena through personal interviews. It gives rich, detailed information on how and why trust relationships develop among members of school communities. Researchers can uncover perceptions, beliefs, and experiences that shape trust. However, it is usually constrained by subjectivism and an inability to generalize findings to larger populations. Combining both approaches will yield a better framework for studying trust relationships within school units. Consequently, this allows the researchers to make more accurate and nuanced conclusions by linking quantitative trends to qualitative narratives.

Keywords: quantitative analysis, qualitative analysis, trust.

1. Introduction

The review highlights that trust is a multidimensional concept often defined differently across literature. Indeed, most reviewed articles referred to well-established definitions by Mayer et al. (1995) and Rousseau et al. (1998) that conceptualized trust in relational terms. Specifically, Mayer et al. define trust as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action necessary to the trustor, irrespective of the ability to monitor or control that other party. The review also

indicates that trust can be conceptualized along more generalized lines, like the propensity to trust, which is considered a belief in the general goodness of humanity. This is an essential difference between relational and generalized trust, which carries significant implications for how researchers approach the subject.

In other words, trust can be defined as (a) relational trust, a set of intentions of vulnerability towards another based on one's expectations of the positive behavior of others, and (b) generalized trust, a belief in the overall benignity of human nature, reflecting a broader disposition to trust others. Researchers are encouraged to explain if they are studying relational or generalized trust to provide conceptual clarity (Schilke et al., 2023). Such complexity in the trust analysis arises from its multifaceted nature, the varying contexts in which it is studied, and the need for more sophisticated models to understand its dynamics completely. Accordingly, trust has been measured and operationalized differently in sociology, psychology, economics, and politics. This diversity may lead to inconsistency in how the meaning and content of trust are understood and assessed. There are also several types and forms of trust, further complicating direct comparisons between studies. Much more work remains to be done about individual differences in trust. While the results of a meta-analysis may indicate general trends, the variation in a person's trust level must be studied in greater detail. Trust is not static; it can change over time based on experiences and interactions. Current studies often represent point comparisons rather than dynamic profiles, making it difficult to capture how trust evolves (Hancock et al., 2023).

Trust is a crucial element of social cohesion, and education is an essential precondition for trust. Research on trust in education needs to be developed despite its importance for academic performance, school improvement, and social cohesion. First, the investigation domains must be identified: trust in education institutions, trust in educational governance, and generalized trust. Thus, trust in education is complex and multilevel, comprising generalized trust, governance, educational settings, and educational attainment. The literature review underlines the need to understand the interrelations between these elements, including the role that socialization through educational institutions might play in developing generalized trust. According to Niedlich et al. (2020), trust in educational settings depends on institutional climate, everyday experiences, leadership, and guiding principles.

Our study of trust within educational environments required methodologies that merged objective data analysis with deep, qualitative exploration. In modern educational research, understanding trust involves recognizing nuances in quantitative and qualitative data. More specifically, the mixed-methods approach used to explore trust relationships in primary school units in Western Greece offered a comparison between the quantitative and qualitative findings and, at the same time, a detailed landscape of trust (Panagopoulos et al., 2024).

2. Choosing a methodological approach: The implementation in our study

The qualitative approach can shed light on specific issues in depth, while the quantitative approach can provide numerical evidence and sometimes generalization. In complex phenomena, such as the present one, namely trust and trust crisis, analysis and interpretation can likely be obtained through statistical analyses and the qualitative approach, which can bring essential aspects to the discussion. Finally, using only one approach might prove to be 'incomplete' to attribute an explanatory scheme for the phenomenon; therefore, using a second approach in combination is the solution to such a potential problem. In conclusion, the mixed methods approach provides the analysts with flexible research data management and many tools for collecting research data (Tashakkori & Teddlie, 2010).

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Whereas quantitative research is based on a positivist approach that focuses on objectively measuring variables, qualitative research is more interpretive, trying to make sense of the meaning and context in which human experiences occur. Quantitative research methods include structured surveys and experiments that are usually used to produce numerical data. In contrast, qualitative research produces descriptive data through unstructured or semi-structured interviews, observations, and document analysis. The primary goal of quantitative research is to test hypotheses and establish generalizable facts. In contrast, qualitative research aims to explore and understand complex phenomena, providing depth and context to the findings (Patton, 1990).

Quantitative research typically starts from the point of hypotheses, which could be tested statistically, while qualitative research is more exploratory, focusing on open-ended questions linked to experiences and perspectives. Quantitative research is based on statistical analyses of numerical data, whereas qualitative research involves thematic analysis of textual or visual data; patterns and themes are identified inductively. In quantitative studies, the researcher maintains distance from participants to avoid biased views by maintaining an outsider's perspective. In qualitative research, researchers may engage more closely with participants, often becoming "participant observers" to gain deeper insights (Castellan, 2010; Strauss & Corbin, 1998).

We will briefly present the advantages, as well as the weak points, of the two approaches we have chosen to use. Starting with the questionnaire, among the advantages, we could include the following: a. through appropriate adaptation, it is possible to collect generalized information from almost any population; b. a large amount of numerical data is obtained; c. it is probably the easiest way to collect information about a subject's past; d. usually, the cost is low, and the information is collected quickly. e. the anonymity of the participants is ensured. As for the disadvantages of using the questionnaire, these can include the following: a. the questionnaire is a self-report tool, and thus the data collected is determined by the personal characteristics of the participants; b. the possible inaccurate recording of beliefs by the participants; c. in many cases there is a low response rate; d. misinterpretations may arise in the questions that cannot be resolved, and e. participants may need to cope with seriousness when completing the questionnaires, which may impact the data the researcher will receive for processing (Robson & McCartan, 2016).

Regarding the use of semi-structured interviews, the positive aspects include a. the flexibility they provide to the researchers to discover information that will be useful for their research, b. in-depth investigation, c. understanding the interviewee's living context, d. it may be more likely for the participant to express an approach more clearly in his/her own words, and the researchers can adapt the content of the interview according to the flow of the interview and the answers given by the interviewee. The disadvantages of using the semi-structured interview include: a. the analysis of the semi-structured interview can be complicated and time-consuming; b. understanding what the interviewee says can be difficult; c. findings are not easy to generalize; and d. the interviewer's approach is likely crucial to the interview, so it is necessary to set aside preconceptions and a priori preconceptions about the subject he or she is facing (Creswell & Plano Clark, 2018).

The questionnaire and semi-structured interview were the two instruments employed to collect the data necessary for the conduct of the present study. Researchers widely use these two tools to explore conceptions, attitudes and practices on different issues, phenomena, or other subjects. Designing and using the tools in the field are two necessary steps to complete the research (Robson & McCartan, 2016).

The methodological approach of our study was that both quantitative surveys and qualitative interviews were combined in one study in our effort to contribute to the study of trust relationships. Through a quantitative approach and, more specifically, through structured

questionnaires, we aimed to collect data from the population of teachers and headteachers in the Region of Western Greece, enabling statistical analysis. This design emphasized the measurable components of trust and professional identity through correlations, mean comparisons, and variable analysis. Semi-structured interviews were conducted to capture in-depth and personalized information. This approach allowed us to explore the respondents' beliefs, feelings, and experiences, showing how trust is perceived and expressed in various contexts.

Furthermore, the quantitative approach provided a comprehensive overview of trust levels and their relationships with professional identity variables. The data analysis revealed notable correlations between trust, satisfaction from school and perceived professional support. The quantitative results demonstrated patterns that could be generalized to broader populations, identifying areas of strong and weak trust within school units. The quantitative data collection involved a structured questionnaire to measure various dimensions of trust and professional identity among teachers and school headteachers. This tool allowed for a broad understanding of the prevalence and levels of trust across the sampled population.

The qualitative data was gathered through semi-structured interviews, allowing the respondents to express themselves flexibly and in-depth. Therefore, interviewees included teachers and headteachers who were engaged in elaborating on their experiences and views regarding trust, professional relationships, and the consequences of permacrisis on their work. Qualitative findings added depth in context and narrative to the quantitative results. Through thematic analysis, it emerged that participants conceptualized trust as a multidimensional and dynamic construct based on personal interactions, institutional culture, and external socio-economic pressures. Narratives of permacrisis demonstrate the impact on professional identities and dynamics of trust.

3. Our study as a case study: The differences between methodologies and interpretations

Our study is an exemplary case for exploring the interplay between quantitative and qualitative methodologies. While the quantitative data captured the extent and measurable aspects of trust, the qualitative data explained the "why" and "how" behind those measurements. For example, where the surveys indicated a decline in trust among some teachers, the interviews revealed personal stories of perceived neglect and the challenges of maintaining professional integrity amid constant external pressures. The interpretation of quantitative results focused on statistical correlations and significant differences between variables. On the other hand, interpreting qualitative results allowed for a more nuanced understanding, revealing individual and collective experiences that might not emerge in a purely statistical approach.

Moreover, the standardized questionnaires allowed the analysis of trust at a micro and meso level, outlining general trends and correlations that are statistically significant and generalizable. For instance, our findings identified general trends in trust levels depending on demographic factors, school units, and professional profiles. This information was indispensable for the elaboration of models of professional identity and understanding systemically more comprehensive problems. On the other hand, qualitative approaches enriched those findings by investigating participants' experiences and life stories. Semi-structured interviews succeeded in laying open complexities and nuances behind the statistical data, as we mentioned above.

When quantitative results showed a moderate level of trust, qualitative data gave much deeper insights into the reasons behind these perceptions-institutional pressures or interpersonal dynamics, for instance. While completing the questionnaire and implementing the interviews, we observed some crucial points for the research level. In terms of questionnaire completion, both teachers and headteachers responded based on their institutional role. In contrast, they placed

themselves at the forefront of the interviews, so we had clear narratives with experiences and personal stories; this is another point that reveals the complementarity between the two methodological approaches, the two different tools for collecting research data. Besides, it instead ensures comprehensiveness in terms of the issue under study.

In our study, two research instruments of different logic (questionnaire and semi-structured interview) worked to their limits. The questionnaire gave us important quantitative data for analysis (e.g., we built professional profiles, implemented correlation analyses, and explored validity and reliability). On the other hand, semi-structured interviews took us interpretatively deeper, giving interesting meanings relevant to the study. The results of using the two methodological approaches have worked in a complementary and enlightening way. The dual approach underscores the complementary nature of these methodologies. Consequently, quantitative data offered the "what," while qualitative data illuminated the "why" and "how." This synergy enhanced the validity of our conclusions and provided a multidimensional understanding of trust dynamics in educational environments.

4. In lieu of a conclusion: The necessity of a mixed methodological approach

The present study concentrated on the discrepancies between quantitative and qualitative methodological approaches to the analysis of trust relationships within school units. The findings indicated that the general trends and correlations within data can be portrayed quantitatively, but the dynamics and perceptions underpinning these require qualitative insights. Such a dual approach gave a far richer and more comprehensive picture that could inform future policies on education, support for teachers, and school leadership. Integrating quantitative and qualitative methodologies in our study represents the significant contribution of a mixed-methods approach toward educational research. We combined the strengths of both paradigms to achieve a holistic understanding of trust within school units. The quantitative results gave a broad overview of the levels of trust and their relations with professional identity, while the qualitative insights provided depth and contextual clarity.

This dual approach offsets the limitations inherent in each methodology and sets a framework for future research. Thus, mixed-methods designs may be effectively adopted in studies exploring complex phenomena, such as trust in crisis-prone educational environments. The findings also emphasize the role of trust as the cornerstone to developing professional relationships that sustain an educational institution in times of uncertainty. Ultimately, our research shows that integrating different approaches is not only a methodological choice but an imperative for understanding complex social phenomena. This approach could provide a solid foundation to make policy and practice recommendations for enhancing school trust and professional collaboration.

This research further underlines the crucial role of context-specific factors in shaping trust dynamics. The findings show how socio-economic pressures, institutional culture, and leadership styles influence building and sustainability trust within educational settings. This layered understanding becomes vital in light of ongoing crises, such as those described within the framework of permacrisis. Another important lesson learned is the flexibility of the mixed-methods approach in the measurement and experiential dimensions of trust. Adopting this methodological pluralism in future studies could enhance the reliability of such a study and give actionable insights to policymakers and practitioners.

Thus, trust is at once an abstract concept and a concrete, actionable variable of considerable import in developing resilience and building cooperation within schools. This research acts as the stepping stone for further investigation into trust as a linchpin for educational reform and societal cohesion.

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