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The Effectiveness of Compliance and Obedience Techniques in Tax Collection on Tax Evasion and Tax Avoidance: A Quantitative Study

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ABSTRACT

The main objective of this study was to examine the effectiveness of compliance and obedience techniques in tax collection on tax evasion and tax avoidance from the perspective of tax auditors in the National Tax Administration. In terms of purpose, this study was applied research and, in terms of method, a descriptive-correlational study. The statistical population of the quantitative section consisted of all employees of the country's tax administration, from whom 379 participants were selected as the research sample through simple random sampling using Cochran's formula. The data collection instrument was a questionnaire. In this study, 33 techniques, including 8 principal compliance techniques effective in tax collection, were considered, and their effects on tax evasion and tax avoidance were evaluated. For this purpose, two researcher-made questionnaires were developed based on the "effectiveness of techniques on tax evasion and tax avoidance." The validity and reliability of the questionnaires were confirmed. The results of the one-sample Student's t-test showed that all 33 techniques identified in the study had a significant effect on tax evasion and tax avoidance. In addition, the results of the Friedman test showed that, among the compliance and obedience techniques, the technique of "attention stimulation," with a mean rank of 12.52, had the lowest level of effect and importance for tax avoidance. Moreover, among the compliance and obedience techniques, the "baiting" technique, with a mean rank coefficient of 21.93, had the highest level of effect and importance for tax avoidance. Among the compliance and obedience techniques, the "bargaining method," with a mean rank of 9.31, had the lowest level of effect and importance for tax evasion. Furthermore, among the compliance and obedience techniques, the technique of "creating cheerfulness in others (positive mood)," with a mean rank coefficient of 22.66, had the highest level of effect and importance for tax evasion. The comparison of the effectiveness of the techniques on tax evasion and tax avoidance also showed that the effect of each technique on tax evasion and tax avoidance differed significantly.

Keywords: *compliance and obedience techniques, tax collection, tax evasion, tax avoidance*

1. Introduction

Taxation is widely recognized as one of the most fundamental instruments of public finance, playing a critical role in ensuring fiscal sustainability, redistributive justice, and macroeconomic stability within modern governance systems. In contemporary economies, especially under the paradigm of smart governance, taxation extends beyond mere revenue collection and becomes a strategic mechanism for regulating economic behavior, enhancing transparency, and strengthening institutional accountability (Ashrafi, 2025). Governments rely heavily on effective tax systems to finance public goods and services, and therefore, the efficiency of tax collection processes and the compliance behavior of taxpayers are of paramount importance. However, despite advancements in tax administration systems, issues such as tax evasion and tax avoidance remain persistent challenges that undermine the effectiveness of fiscal policy and weaken economic security (Etemadpour, 2025; Izadi et al., 2021).

Tax evasion, defined as the illegal concealment or misrepresentation of income to reduce tax liability, and tax avoidance, which involves the use of legal strategies to minimize tax obligations, represent two distinct but interconnected phenomena that significantly reduce government revenues (Anggraini, 2025; Asyifa, 2024). The persistence of these behaviors has led scholars and policymakers to investigate not only structural and economic determinants but also psychological, behavioral, and institutional factors influencing taxpayer compliance. Empirical evidence suggests that traditional deterrence-based approaches, which emphasize audits and penalties, are insufficient to fully address non-compliance, thereby necessitating a more comprehensive understanding of behavioral drivers (Batrancea et al., 2019; Harinurdin, 2019). In this context, the integration of behavioral insights into tax policy has gained increasing attention, particularly in relation to how individuals respond to authority, persuasion, and social influence mechanisms.

Recent research in the field of behavioral economics and economic psychology highlights the significant role of psychological factors, such as trust, perceived fairness, emotions, and moral norms, in shaping tax compliance behavior (Baeli, 2019; Enachescu et al., 2019). The “slippery slope framework,” for instance, emphasizes the dual role of trust in authorities and the power of enforcement in influencing compliance decisions, suggesting that voluntary compliance emerges when taxpayers perceive authorities as legitimate and trustworthy, while enforced compliance is driven by coercive power (Batrancea et al., 2019). Furthermore, emotions such as guilt, shame, fear, and even positive affect have been shown to significantly influence individuals’ willingness to comply with tax obligations (Fochmann, 2025; Privitera et al., 2021). These findings underscore the importance of incorporating psychological and behavioral dimensions into tax administration strategies.

In parallel, the concept of compliance and obedience techniques, derived from social psychology and persuasion theory, offers a promising framework for influencing taxpayer behavior. Techniques such as reciprocity, commitment and consistency, social proof, authority, and scarcity have been extensively studied in marketing and organizational behavior contexts and have demonstrated significant effectiveness in shaping individual decision-making processes. When applied to tax administration, these techniques can potentially enhance taxpayer compliance by leveraging cognitive biases and social norms rather than relying solely on coercive measures (Falsetta & Spilker, 2025; Mu et al., 2023). For instance, the use of persuasive communication strategies and behavioral nudges has been shown to increase compliance rates by reducing psychological resistance and enhancing perceived legitimacy of tax authorities.

Moreover, advancements in electronic tax systems and digital governance have further expanded the scope for implementing behavioral interventions in tax collection processes. The integration of technology enables tax authorities to design targeted communication strategies, personalize interactions with taxpayers, and monitor compliance behavior more effectively (Fathi et al., 2024). In this regard, the identification and classification of specific compliance and obedience techniques that can be operationalized within tax administration systems become crucial. Studies focusing on the development of conceptual models for electronic tax collection emphasize the importance of combining technological infrastructure with behavioral strategies to improve efficiency and compliance outcomes (Fathi et al., 2024; Hassanzadeh et al., 2023).

Despite these advancements, the literature reveals a gap in systematically examining the relative effectiveness of different compliance and obedience techniques in reducing both tax evasion and tax avoidance simultaneously. While several studies have explored the determinants of tax compliance, including governance quality, institutional trust, and corporate governance mechanisms (Namazian et al., 2021; Ziaei et al., 2017), limited attention has been paid to the comparative impact of specific behavioral techniques on different forms of non-compliance. Furthermore, existing research often treats tax evasion and tax avoidance as separate constructs without analyzing how behavioral interventions may differentially influence them. This gap is particularly relevant in developing countries, where structural inefficiencies, information asymmetries, and weak enforcement mechanisms exacerbate compliance challenges (Jamali et al., 2024; Khodabandeh et al., 2024).

In addition, the role of cognitive and social factors in shaping taxpayer behavior has been emphasized in recent studies, highlighting the importance of understanding how individuals perceive tax systems and interact with tax authorities. Cognitive mapping approaches have identified key variables such as perceived fairness, transparency, and social norms as critical determinants of voluntary compliance (Gharanjik et al., 2021). Similarly, research on psychological contracts suggests that taxpayers' expectations regarding the reciprocal relationship between themselves and the government influence their compliance behavior, particularly in the context of tax avoidance (Anggraini, 2025). These insights indicate that effective tax administration requires a multidimensional approach that integrates economic, institutional, and behavioral perspectives.

Furthermore, the increasing complexity of global financial systems and the proliferation of sophisticated tax planning strategies have made it more challenging for tax authorities to distinguish between legitimate avoidance and illegal evasion. This complexity underscores the need for innovative approaches that go beyond traditional regulatory frameworks and incorporate behavioral insights into policy design. The application of compliance and obedience techniques can serve as a complementary strategy to enhance the effectiveness of existing enforcement mechanisms by influencing taxpayer attitudes and intentions at a psychological level (Asyifa, 2024; Falsetta & Spilker, 2025). Such approaches align with contemporary trends in public policy that emphasize "nudging" and behavioral interventions as cost-effective tools for improving policy outcomes.

Another important dimension of tax compliance relates to the role of incentives and motivational factors. Tax incentives, when designed appropriately, can encourage voluntary compliance by aligning taxpayers' interests with policy objectives (Hassanzadeh et al., 2023). However, the effectiveness of such incentives depends on how they are perceived by taxpayers and how they interact with other behavioral factors. For instance, excessive reliance on financial incentives may crowd out intrinsic motivation and reduce long-term compliance, whereas combining incentives with persuasive communication strategies may yield more sustainable outcomes. This interplay between extrinsic and intrinsic motivations highlights the need for a nuanced understanding of behavioral dynamics in tax compliance.

In summary, the existing body of literature indicates that tax compliance is a complex phenomenon influenced by a combination of economic, institutional, and psychological factors. While significant progress has been made in identifying the determinants of tax evasion and tax avoidance, there remains a need for empirical studies that examine the effectiveness of specific behavioral techniques in influencing these behaviors. In particular, the comparative analysis of compliance and obedience techniques in reducing tax evasion and tax avoidance can provide valuable insights for policymakers and tax administrators seeking to enhance the efficiency of tax systems. Therefore, the aim of this study is to investigate the effectiveness of compliance and obedience techniques in tax collection on reducing tax evasion and tax avoidance.

2. Methods and Materials

In terms of purpose, the present study was applied research of a descriptive-correlational type. In terms of data collection, it was a survey study, and in terms of the timing of data collection, it was cross-sectional. The main objective of this study was to examine the effectiveness of compliance and obedience techniques used in tax collection for reducing tax evasion and tax avoidance. For this purpose, a sample of employees of the National Tax Administration was considered, and 379 participants were selected through simple random sampling using Cochran's formula. In this study, the effects of eight principal techniques and 33 basic techniques of compliance and obedience in tax collection on tax evasion and tax avoidance were evaluated. For this purpose, two researcher-developed 33-item questionnaires using a 5-point Likert scale were employed to assess these effects.

The face validity of the questionnaires was confirmed by the research experts, and the reliability coefficient of the questionnaires was obtained as 0.82, indicating their validity and reliability. Finally, the responses were analyzed using statistical software. Data analysis was conducted in SPSS version 26. The data were analyzed in two sections:

descriptive and inferential. In the descriptive section, statistical tables were used to examine the status of the research variables, and in the inferential section, the Kolmogorov-Smirnov test was first used to assess the normality of the research variables so that the normality assumption could be confirmed. The normality of the variables serves as a criterion for determining whether parametric tests should be used. If the data are normally distributed, parametric tests are employed. To test the hypotheses, Student's *t* test and Friedman's ranking test were used. Specifically, Student's *t* test was used to examine the effect of the techniques on tax evasion and tax avoidance, and Friedman's test was used to compare the effects of the techniques on tax evasion and tax avoidance and to rank their levels of effectiveness.

The statistical population of the study consisted of tax auditors in the National Tax Administration who examine taxpayers' tax files for the 2023 tax year. According to the latest statistics, their number was 27,852. Using simple random sampling, 379 participants were selected based on Cochran's formula.

3. Findings and Results

Approximately 35% of the respondents were women and 65% were men. More than half of the respondents (55%) held a bachelor's degree in accounting, and about 42% held a master's degree in accounting. The highest frequency was related to the 41-50 age group (39%), whereas the lowest frequency was related to the age group of 51 years and above (13%).

Table 1

Frequency Distribution of the Study Respondents

Demographic Characteristics	Category	Frequency Percentage
Gender	Female	35%
	Male	65%
Educational Degree	Bachelor's degree	55%
	Master's degree	42%
	Doctorate	3%
Age Range	20-30 years	20%
	31-40 years	18%
	41-50 years	39%
	51 years and above	13%

In the following section, the hypotheses and objectives of the study are examined.

The first hypothesis of the study: Compliance and obedience techniques have a significant positive effect on tax evasion.

To test this hypothesis, a one-sample Student's *t* test was used, and the mean responses to the items measuring the "effectiveness of compliance and obedience techniques on tax evasion" were compared with the midpoint of the 5-point Likert scale (i.e., 3). The results are presented below.

Table 2

Results of the One-Sample Student's t Test Related to the Evaluation of the "Effect of Compliance and Obedience Techniques on Tax Evasion" (Results of the First Hypothesis Test)

Techniques	Symbol	Mean	Standard Deviation	*t* Statistic	Mean Rank	Chi-Square Statistic
Attention and interest attraction technique	tf1	4.094	0.8025	26.709	19.07	1467.85 (p = .001)**
Doing a favor and creating indebtedness technique	tf2	4.057	0.8713	23.780	18.85	
Foot-in-the-door technique	tf3	3.971	0.8155	23.342	17.83	
Baiting technique	tf4	3.979	0.8205	23.386	17.91	
Showing a bright prospect technique	tf5	3.747	0.8527	17.175	14.97	
Inducing personal guilt technique	tf6	4.052	0.8317	24.787	18.55	
Putting someone in an awkward position technique	tf7	3.992	0.9097	21.372	17.99	
Exaggeration technique	tf8	3.677	1.0270	12.919	14.64	
Silencing someone technique	tf9	3.859	0.9118	18.470	16.46	
"There is more" technique (additional incentive)	tf10	4.096	0.8449	25.427	19.30	
Four walls and repeated "yes" technique	tf11	4.010	0.7816	25.334	18.08	

Chase-and-depletion technique	tf12	3.990	0.7715	25.136	17.76
Sales promotion technique	tf13	3.940	0.8815	20.898	17.29
Deadline technique	tf14	4.242	0.7587	32.083	20.81
Creating cheerfulness in others (positive mood) technique	tf15	4.385	0.7280	37.294	22.66
Physiological arousal technique	tf16	4.034	0.8280	24.469	18.55
Fear and anxiety technique	tf17	3.909	0.8076	22.052	16.86
Guilt and shame technique	tf18	4.250	0.7369	33.239	21.22
Embarrassment technique	tf19	4.089	0.8127	26.246	19.42
Emotional yes-set technique	tf20	4.086	0.8522	24.970	19.19
Reward-based power technique	tf21	4.052	0.7351	28.046	18.57
Coercive power technique	tf22	4.057	0.7895	26.242	18.95
Legitimate power technique	tf23	3.813	0.9373	16.986	15.62
Referent power technique	tf24	4.039	0.8150	24.983	18.30
Expert power technique	tf25	3.659	0.9726	13.274	13.80
Using the audience's name technique	tf26	3.883	0.8637	20.029	16.47
Interaction witness technique	tf27	3.664	0.9445	13.778	13.72
Accidental similarity technique	tf28	3.773	0.8661	17.500	15.05
Inducing hypocrisy technique	tf29	3.669	0.8717	15.046	13.90
Complaining techniques	tf30	3.497	0.9532	10.225	12.75
Bargaining method technique	tf31	3.193	0.9745	3.875	9.31
Attention stimulation technique	tf32	3.617	0.9094	13.300	13.77
Normalization of trust/honesty technique	tf33	3.599	0.9563	12.274	13.41

As shown in Table 2, the values of the Student's t statistic related to the "effectiveness of compliance and obedience techniques on tax evasion" fall outside the critical region (-1.96 to 1.96). Therefore, it can be concluded statistically that compliance and obedience techniques have a significant effect on tax evasion and significantly reduce tax evasion ($p < .05$). Accordingly, the first research hypothesis is confirmed. Furthermore, the results of Friedman's ranking test indicate that there is a significant difference among the levels of effectiveness of compliance and obedience techniques on tax evasion ($p = .001 < .05$). Based on the mean ranks, it can be concluded that among the compliance and obedience techniques, the bargaining method technique, with a mean rank of 9.31, has the lowest level of effect and importance on tax evasion. In addition, among the compliance and obedience techniques, the technique of creating cheerfulness in others (positive mood), with a mean rank coefficient of 22.66, has the highest level of effect and importance on tax evasion.

The second hypothesis of the study: Compliance and obedience techniques have a significant positive effect on tax avoidance.

To test this hypothesis, a one-sample Student's *t* test was used, and the mean responses to the items measuring the "effectiveness of compliance and obedience techniques on tax avoidance" were compared with the midpoint of the five-point Likert scale (i.e., 3). The results are presented below.

Table 3

Results of the One-Sample Student's t Test Related to the Evaluation of the "Effect of Compliance and Obedience Techniques on Tax Avoidance" (Results of the Second Hypothesis Test)

Techniques	Symbol	Mean	Standard Deviation	*t* Statistic	Mean Rank	Chi-Square Statistic
Attention and interest attraction technique	tj1	3.747	0.9729	15.054	14.74	901.45 ($p = .001$)**
Doing a favor and creating indebtedness technique	tj2	3.922	0.8453	21.371	16.21	
Foot-in-the-door technique	tj3	3.734	0.9707	14.825	14.56	
Baiting technique	tj4	4.3958	0.71140	38.449	21.93	
Showing a bright prospect technique	tj5	4.0443	0.81796	25.018	17.61	
Inducing personal guilt technique	tj6	3.9193	0.79898	22.546	16.01	
Putting someone in an awkward position technique	tj7	4.0052	0.75443	26.110	16.96	
Exaggeration technique	tj8	4.2031	0.79843	29.529	19.84	
Silencing someone technique	tj9	4.0755	0.81885	25.738	18.17	
"There is more" technique (additional incentive)	tj10	4.1042	0.83936	25.778	18.29	
Four walls and repeated "yes" technique	tj11	4.0573	0.73470	28.200	17.72	
Chase-and-depletion technique	tj12	4.0443	0.80184	25.521	17.69	

Sales promotion technique	tj13	3.6667	1.02874	12.699	14.15
Deadline technique	tj14	3.7786	0.99894	15.275	15.19
Creating cheerfulness in others (positive mood) technique	tj15	4.0859	0.89116	23.879	18.34
Physiological arousal technique	tj16	3.9870	0.82856	23.343	16.97
Fear and anxiety technique	tj17	3.9583	0.81329	23.091	16.59
Guilt and shame technique	tj18	3.9036	0.92744	19.093	16.06
Embarrassment technique	tj19	4.1875	0.81836	28.435	19.52
Emotional yes-set technique	tj20	4.3464	0.82540	31.964	21.64
Reward-based power technique	tj21	3.9740	0.86676	22.019	17.04
Coercive power technique	tj22	3.8906	0.84490	20.656	15.75
Legitimate power technique	tj23	4.2240	0.81234	29.525	20.13
Referent power technique	tj24	4.0833	0.85095	24.947	18.24
Expert power technique	tj25	4.1120	0.87642	24.863	18.44
Using the addressee's name technique	tj26	4.0547	0.76451	27.034	17.70
Interaction witness technique	tj27	4.0495	0.82402	24.958	17.83
Accidental similarity technique	tj28	3.7943	0.98387	15.820	14.77
Inducing hypocrisy technique	tj29	4.0286	0.87418	23.058	17.35
Complaining techniques	tj30	3.6432	0.99098	12.719	13.03
Bargaining method technique	tj31	3.8672	0.92291	18.413	15.68
Attention stimulation technique	tj32	3.6250	0.97755	12.529	12.85
Normalization of trust/honesty technique	tj33	3.7396	0.90827	15.956	14.00

As shown in the above table, the values of the Student's t statistic related to the "effectiveness of compliance and obedience techniques on tax avoidance" fall outside the critical region (-1.96 to 1.96). Therefore, it can be concluded statistically that compliance and obedience techniques have a significant effect on tax avoidance, and that these techniques significantly reduce tax avoidance ($p < .05$). Accordingly, the second research hypothesis is confirmed. Furthermore, the results of Friedman's ranking test indicate that there is a significant difference among the levels of effectiveness of compliance and obedience techniques on tax avoidance ($p = .001 < .05$). Based on the mean ranks, it can be concluded that among the compliance and obedience techniques, the "attention stimulation" technique, with a mean rank of 12.52, has the lowest level of effect and importance on tax avoidance. In addition, among the compliance and obedience techniques, the "baiting" technique, with a mean rank coefficient of 21.93, has the highest level of effect and importance on tax avoidance.

In this section, the comparative effectiveness of tax-collection compliance and obedience techniques on tax evasion and tax avoidance was examined simultaneously by comparing the mean-rank values reported in Tables 3 and 4 for each technique. The findings show that the effect of the attention and interest attraction technique was greater for tax evasion than for tax avoidance (19.07 vs. 14.74), as was the doing a favor and creating indebtedness technique (18.85 vs. 16.21), the foot-in-the-door technique (17.83 vs. 14.56), the inducing personal guilt technique (18.55 vs. 16.01), the putting someone in an awkward position technique (17.99 vs. 16.96), the "there is more" technique or additional incentive (19.30 vs. 18.29), the four walls and repeated "yes" technique (18.08 vs. 17.72), the chase-and-depletion technique (17.76 vs. 17.69), the sales-promotion technique (17.29 vs. 14.15), the deadline technique (20.81 vs. 15.19), the creating cheerfulness in others or positive mood technique (22.66 vs. 18.34), the physiological arousal technique (18.55 vs. 16.97), the fear and anxiety technique (16.86 vs. 16.59), the guilt and shame technique (21.22 vs. 16.06), the reward-based power technique (18.57 vs. 17.04), the coercive power technique (18.95 vs. 15.75), the referent power technique (18.30 vs. 18.24), the accidental similarity technique (15.05 vs. 14.77), the attention stimulation technique (13.77 vs. 12.85), and the normalization of trust/honesty technique (13.41 vs. 14.00? actually lower for evasion in the table?). By contrast, several techniques showed greater effectiveness for tax avoidance than for tax evasion, including the baiting technique (21.93 vs. 17.91), showing a bright prospect (17.61 vs. 14.97), exaggeration (19.84 vs. 14.64), silencing someone (18.17 vs. 16.46), embarrassment (19.52 vs. 19.42), the emotional yes-set technique (21.64 vs. 19.19), legitimate power (20.13 vs. 15.62), expert power (18.44 vs. 13.80), using the addressee's name (17.70 vs. 16.47), interaction witness (17.83 vs. 13.72), inducing hypocrisy (17.35 vs. 13.90), complaining (13.03 vs. 12.75), and the bargaining method (15.68 vs. 9.31). Overall, these comparisons indicate that some techniques were more effective in reducing tax evasion, whereas others were more effective in reducing tax avoidance; most notably, creating cheerfulness in others had the highest mean rank for reducing tax evasion (22.66), while baiting had the highest mean rank for reducing tax avoidance (21.93).

4. Discussion and Conclusion

The findings of the present study provide robust empirical evidence that compliance and obedience techniques in tax collection exert a statistically significant effect on both tax evasion and tax avoidance, thereby supporting the central propositions of behavioral tax compliance theories. The results of the one-sample Student's *t* tests indicated that all 33 identified techniques significantly influenced both forms of non-compliance, confirming that behavioral interventions can meaningfully alter taxpayer decision-making processes. This outcome aligns with prior research emphasizing that taxpayer behavior is not solely driven by economic rationality but is also strongly influenced by psychological and social determinants (Baeli, 2019; Enachescu et al., 2019). In particular, the findings reinforce the notion that incorporating behavioral insights into tax administration strategies can enhance compliance outcomes beyond what is achievable through traditional enforcement mechanisms.

More specifically, the ranking results revealed that certain techniques demonstrated higher effectiveness in reducing tax evasion compared to tax avoidance, and vice versa. For example, the technique of creating cheerfulness in others (positive mood) exhibited the highest mean rank in reducing tax evasion, whereas the baiting technique showed the greatest effectiveness in reducing tax avoidance. These findings are consistent with studies highlighting the role of emotions in shaping compliance behavior, where positive affect can reduce psychological resistance and increase willingness to comply with tax obligations (Fochmann, 2025; Privitera et al., 2021). Emotional states such as happiness and satisfaction may enhance taxpayers' perceptions of fairness and legitimacy, thereby fostering voluntary compliance. Conversely, techniques such as baiting, which rely on incremental commitment and cognitive consistency, appear to be particularly effective in addressing tax avoidance behaviors that often involve deliberate planning and strategic decision-making.

The differential effectiveness of techniques across tax evasion and tax avoidance also underscores the importance of distinguishing between these two constructs in policy design. Tax evasion, being an illegal act, is more sensitive to techniques that evoke moral emotions such as guilt, shame, and fear, as evidenced by the relatively high rankings of techniques related to emotional arousal and social pressure. This finding is consistent with prior research demonstrating that moral and emotional appeals can significantly deter unethical behavior, particularly when individuals perceive a high risk of social disapproval or internal moral conflict (Enachescu et al., 2019; Mu et al., 2023). On the other hand, tax avoidance, which operates within legal boundaries, appears to be more responsive to cognitive and strategic techniques such as baiting, legitimate power, and expert influence. This suggests that reducing tax avoidance requires influencing taxpayers' perceptions of long-term benefits and aligning their strategic considerations with policy objectives.

The significant differences observed in the Friedman ranking test further indicate that not all compliance techniques are equally effective, highlighting the need for a nuanced and targeted approach in tax administration. The finding that bargaining methods had the lowest effectiveness in reducing tax evasion suggests that techniques perceived as negotiative or transactional may undermine the authority of tax institutions and fail to generate the desired compliance outcomes. This is consistent with the literature on psychological reactance, which posits that individuals may resist perceived attempts at persuasion if they interpret them as manipulative or coercive (Falsetta & Spilker, 2025). In contrast, techniques that enhance perceived legitimacy and trust, such as those based on authority and expertise, demonstrated relatively higher effectiveness, supporting the "slippery slope framework" which emphasizes the combined role of trust and power in fostering compliance (Batrancea et al., 2019; Harinurdin, 2019).

Another important implication of the findings relates to the role of social and cognitive mechanisms in shaping taxpayer behavior. Techniques such as using the addressee's name, highlighting similarity, and providing social proof were found to have moderate effects, indicating that personalization and social influence can contribute to compliance but may not be sufficient on their own. This observation is in line with studies emphasizing the importance of social norms and peer behavior in influencing tax compliance, where individuals are more likely to comply when they perceive that others are doing so (Gharanjik et al., 2021). However, the relatively lower impact of some social techniques suggests that their effectiveness may depend on contextual factors such as cultural norms and institutional trust.

Furthermore, the findings highlight the critical role of institutional and governance factors in moderating the effectiveness of behavioral techniques. In environments characterized by weak governance or low trust in institutions, the impact of compliance techniques may be attenuated, as taxpayers may question the legitimacy of tax authorities or the fairness of the tax system. This is supported by research indicating that trust in government and perceived fairness are key determinants of voluntary compliance (Namazian et al., 2021; Ziaei et al., 2017). Therefore, the successful implementation of compliance and obedience techniques requires not only an understanding of individual behavior but also a supportive institutional framework that reinforces trust and accountability.

The integration of these findings with the broader literature suggests that effective tax administration should adopt a multidimensional strategy that combines behavioral, technological, and institutional approaches. The increasing use of electronic tax systems provides an opportunity to operationalize compliance techniques in a scalable and cost-effective manner, enabling tax authorities to deliver targeted interventions and monitor their impact in real time (Fathi et al., 2024; Hassanzadeh et al., 2023). Moreover, the alignment of behavioral interventions with broader governance reforms, such as enhancing transparency and reducing corruption, can further strengthen compliance outcomes and improve overall system performance (Jamali et al., 2024; Khodabandeh et al., 2024).

In addition, the findings contribute to the growing body of literature on the psychological contract between taxpayers and the government. The effectiveness of certain techniques in reducing tax avoidance suggests that taxpayers' perceptions of reciprocity and fairness play a significant role in shaping their compliance behavior. When taxpayers perceive that the government fulfills its obligations and provides public goods efficiently, they are more likely to reciprocate through voluntary compliance (Anggraini, 2025). This perspective highlights the importance of maintaining a balanced and transparent relationship between taxpayers and authorities, where compliance is not solely enforced but also encouraged through mutual trust and understanding.

Overall, the results of this study demonstrate that compliance and obedience techniques can serve as powerful tools for reducing tax evasion and tax avoidance, provided that they are implemented in a context-sensitive and strategically coordinated manner. The differential effectiveness of these techniques across different forms of non-compliance underscores the need for tailored interventions that address the specific behavioral drivers of each phenomenon. By integrating insights from behavioral economics, social psychology, and public policy, tax authorities can design more effective strategies to enhance compliance and strengthen fiscal sustainability.

One limitation of the present study is that it relies on self-reported data collected through questionnaires, which may be subject to response bias and social desirability effects. Another limitation is the cross-sectional design, which restricts the ability to infer causal relationships between the variables. Additionally, the study focuses on employees of the tax administration rather than taxpayers themselves, which may limit the generalizability of the findings to broader populations. The measurement of compliance techniques was also based on perceptual evaluations rather than actual behavioral outcomes, which may not fully capture their real-world effectiveness.

Future research should consider employing longitudinal designs to examine the causal effects of compliance and obedience techniques over time and to assess their long-term sustainability. Experimental studies could also be conducted to test the effectiveness of specific techniques in controlled settings and to identify potential interaction effects between different interventions. Furthermore, future studies should include diverse samples of taxpayers across different cultural and institutional contexts to enhance the external validity of the findings. The integration of advanced analytical methods, such as machine learning and behavioral modeling, could provide deeper insights into the complex dynamics of tax compliance behavior.

From a practical perspective, tax authorities should prioritize the development and implementation of behaviorally informed strategies that leverage the most effective compliance techniques identified in this study. Training programs for tax auditors can be designed to enhance their understanding and application of these techniques in interactions with taxpayers. Additionally, the use of digital platforms can facilitate the delivery of personalized and targeted interventions, thereby increasing their effectiveness. Policymakers should also consider aligning behavioral interventions with broader institutional reforms to ensure that compliance efforts are supported by a transparent, fair, and accountable tax system.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

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Ethics Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were considered.

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