

Locus of control orientation across place of residence: Comparing urban, suburban, and rural areas

Perbedaan orientasi *locus of control* ditinjau dari domisili kota besar, kota kecil, dan pedesaan

Finis Tetus Nuban Timo, Maria Goretti Adiyanti

Faculty of Psychology, Universitas Kristen Satya Wacana
Jl. Diponegoro No. 52-60, Salatiga, Central Java 50711, Indonesia

ARTICLE INFO:

Received: 2026-02-14
Revised: 2026-04-17
Accepted: 2026-07-11
Published: 2026-07-30

Keywords:

Locus of control,
Place of residence,
Rural, Suburban,
Urban

Kata Kunci:

Domisili, Kota besar,
Kota kecil, Locus of
control, Pedesaan

ABSTRACT

Human behavior and cognitive patterns are significantly shaped by the environment. One psychological construct influenced by this context is the locus of control. This study aimed to compare the orientation of Levenson's locus of control components (Internal, Chance, and Powerful Others) across populations living in urban, suburban, and rural areas. This study employed a non-probability sampling technique involving 392 participants aged 18–40 years. Data were analyzed using Analysis of Variance (ANOVA) via JASP. The results indicated no significant differences in the Internal and Chance Locus of Control components. However, a significant difference was found in the Powerful Others Locus of Control component. Post-hoc analysis revealed significant disparities between the urban and suburban groups, as well as between urban and rural groups, whereas no significant difference was observed between suburban and rural groups. These findings imply the necessity of tailoring psychological interventions based on residential background to enhance the effectiveness of individual treatment.

ABSTRAK

Perilaku dan pola pikir manusia biasanya dipengaruhi oleh lingkungan tempat tinggal. Salah satu aspek psikologis yang dapat dipengaruhi oleh tempat tinggal ialah locus of control. Tujuan penelitian ini untuk membandingkan orientasi komponen locus of control milik Levenson yaitu internal locus of control, chance locus of control, dan powerful others locus of control pada masyarakat yang tinggal di kota besar, kota kecil, dan pedesaan. Teknik sampel menggunakan non-probability sampling dengan kriteria yang berusia 18-40 tahun, partisipan berjumlah 392. Analisis data menggunakan analisis varians dengan bantuan aplikasi JASP. Hasil pengujian hipotesis menunjukkan perbedaan yang tidak signifikan pada komponen internal locus of control dan chance locus of control dan perbedaan yang signifikan pada komponen powerful others locus of control. Perbedaan signifikan ditunjukkan antara kelompok kota besar dan kota kecil serta antara kota besar dan pedesaan. Sedangkan antara kota kecil dan pedesaan tidak terdapat perbedaan yang signifikan. Implikasi hasil dari penelitian ini dapat membantu dalam penyusunan penanganan individu berdasarkan latar domisili agar penanganan keluhan individu efektif.

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How to cite: Timo, F. T. N., & Adiyanti, M. G. (2026). Locus of control orientation across place of residence: Comparing urban, suburban, and rural areas. *Jurnal Psikologi Tabularasa*, 21(1), 154-164. <https://doi.org/10.26905/jpt.v21.i1.16795>

1. INTRODUCTION

Locus of control (LOC) is a psychological concept that has been widely studied to examine its role across various contexts. Shifrer & Sutton (2014), using data from the National Education Longitudinal Study, found differences in LOC orientation, with individuals in rural areas exhibiting lower levels of internal control, whereas those in urban areas demonstrated higher levels of internal control. Similarly, Sabry et al. (2016) found that rural populations had stronger external LOC beliefs in general life compared with urban populations. LOC is defined as the extent to which individuals believe that they are capable of controlling and influencing events (Shiraev & Levy, 2020).

According to a report by Statistics Indonesia (2025), the poverty rate in rural areas was 11.34 percent in September 2024, declining from 11.79 percent in March 2024, which was higher than the urban poverty rate, which stood at 6.66 percent in September 2024. This condition highlights the importance of examining LOC among the Indonesian population since disparity may contribute to differences in LOC orientation, as individuals with limited access to resources tend to perceive their circumstances as being determined by external factors (Shifrer & Sutton, 2014). Beyond poverty, disparities also exist in access to education, employment, technology, and healthcare services (Gafur et al., 2025). These disparities may contribute to differences in LOC orientation, as individuals with limited access to resources are more likely to perceive their circumstances as being shaped by external factors. Therefore, examining LOC based on place of residence is important for identifying whether differences in control orientation exist between different groups within the population.

Rotter's theory categorizes locus of control (LOC) into internal locus of control (ILOC) and external locus of control (ELOC). Internal locus of control (ILOC) refers to the belief that one's efforts to achieve a particular goal are under their own control, whereas external locus of control (ELOC) refers to the belief that one's efforts to achieve a particular goal are controlled by external forces, such as fate, chance, or other people (Feist et al., 2018). However, Levenson argued that Rotter's concept of LOC was inadequate to explain people's perceptions of control over their lives and subsequently proposed his own conceptualization of LOC (Levenson, 1975). Levenson's LOC theory further divides LOC into three components: internal locus of control (ILOC), chance locus of control (CLOC), and powerful others locus of control (POLOC). Levenson further divides ELOC into CLOC and POLOC. Levenson's definition of ILOC is similar to Rotter's, whereas CLOC refers to an individual's belief that events or outcomes in their daily life are controlled by fate or chance, and POLOC refers to the belief that events in one's daily life are controlled by other people who possess power or influence (Levenson, 1973).

Individual LOC is influenced by various factors. Previous studies have identified several factors that contribute to the development of LOC. One study found that inadequate maternal interaction with children was associated with an increased risk of children developing an external LOC orientation at the age of 8 (Nowicki et al., 2018). This finding is consistent with Indrawati & Sugiarti (2022), who found that parenting styles play a role in shaping LOC, which subsequently moderates adolescent behavior in Indonesia. Fadilah & Mahyuni (2019) found that LOC is influenced by beliefs in good fortune, friendships, age, gender, a strong work ethic, family, and initiative. Several other studies have also indicated that place of residence plays a role in shaping an individual's LOC (Baltes et al., 1999; Ciuba et al., 2025; Suraj et al., 2024; Tsiring et al., 2023).

Several previous studies have examined differences in LOC orientation across residential areas. Ciuba et al. (2025) compared Health LOC among 407 Polish women aged 45–69 years living in urban and rural areas. Their findings revealed a significant difference in ILOC between women living in urban and rural areas. Suraj et al. (2024) examined the relationship between place of residence (urban and rural) and LOC using a chi-square test among 200 university students aged 21–27 years. The results indicated a significant association between place of residence and LOC. Another study conducted in Indonesia by Sujadi & Setioningsih (2018) compared LOC among 230 students from three different ethnic groups, namely Javanese, Kerinci, and Minangkabau. The findings showed that students of Javanese ethnicity tended to have an external LOC orientation, whereas those of Kerinci and Minangkabau ethnicity tended to have an internal LOC orientation.

Studies examining whether LOC differs according to place of residence have mostly been conducted outside Indonesia (Baltes et al., 1999; Ciuba et al., 2025; Suraj et al., 2024; Tsiring et al., 2023). Based on a bibliometric analysis using the Publish or Perish application and the Google Scholar database for the 2016–2025 period, with the keywords “locus of control,” “city,” “village,” and “place of residence,” studies on LOC have frequently investigated individuals living in rural or urban areas. However, the number of literatures specifically comparing LOC among urban and rural populations in Indonesia remains limited. One study has compared LOC across groups; however, the groups were categorized based on ethnicity rather than place of residence (Sujadi & Setioningsih, 2018). Previous studies have predominantly described ILOC and ELOC separately, while no study has specifically compared LOC across different places of residence. Therefore, the present study aims to address this gap in the literature by examining differences in control orientation among populations from three different places of residence.

Differences in LOC based on place of residence can be explained using Rotter’s social learning theory (Feist et al., 2018), which proposes that an individual’s personality is a representation of the interaction between the individual and their environment. Furthermore, the theory suggests that internal explanations of personality cannot be separated from environmental factors. Therefore, the environment, which in this study refers to place of residence, plays a role in shaping personality, particularly LOC. The theoretical explanation of the relationship between LOC orientation and place of residence is further supported by previous findings.

Rural and urban environments often differ in terms of socioeconomic characteristics, such as access to education, healthcare services, and economic opportunities, which may shape the ways in which their populations think and perceive control. Individuals living in rural areas may exhibit higher ILOC because limited facilities and access to healthcare encourage them to rely more on themselves to find solutions to the problems they encounter (Tsiring et al., 2023). In contrast, individuals in urban areas may exhibit higher ELOC because the numerous environmental factors present in urban settings may make individuals more likely to attribute their behavior to factors outside themselves rather than to their own actions (McConnell et al., 2010).

The purpose of this study is to determine whether there are significant differences in each LOC dimension based on Levenson’s theory among the Indonesian population when examined according to place of residence, namely urban, suburban, and rural areas. Specifically, this study aims to determine: (1) Whether there are significant differences in

internal locus of control (ILOC) among the large-city, small-city, and rural groups; (2) Whether there are significant differences in chance locus of control (CLOC) among the large-city, small-city, and rural groups; and (3) Whether there are significant differences in powerful others locus of control (POLOC) among the large-city, small-city, and rural groups.

2. METHODS

The research method used in this study is a non-experimental quantitative comparative method, which aims to examine differences in the scores of the dependent variables across the groups under study. The dependent variables in this study are the three components of LOC based on Levenson's theory, namely ILOC, CLOC, and POLOC. The differences in these three components will be examined based on the participants' place of residence, which serve as the independent variable in this study. Place of residence is divided into three groups: urban, suburban, and rural areas.

Participants

The population of this study consists of Indonesian citizens. The sampling technique used was non-probability sampling. A total of 392 participants were obtained, with the inclusion criteria of being between 18 and 40 years old and willing to complete the questionnaire in full. According to Roscoe (1975), a representative sample size for most studies ranges from 30 to 500 participants; therefore, the sample size in this study is considered sufficient.

Measures

Data collection in this study used the Internality, Powerful Others, and Chance Scales (IPCS) (Levenson, 1981), which was adapted into Indonesian by the researcher to assess the participants' levels of locus of control. The adaptation process involved translating the original English version into Indonesian by an individual with adequate English proficiency. Following the translation, qualitative validation of semantic equivalence was conducted by two psychology experts. The scale was then transferred to a Google Form and prepared for distribution.

The Levenson IPCS divides locus of control into three distinct components: internal locus of control, chance locus of control, and powerful others locus of control. Each component is measured using 8 items, with responses rated on a Likert scale ranging from strongly disagree (1) to strongly agree (6). Meanwhile, place of residence was determined by asking participants to identify their place of residence by selecting one of three options: urban, suburban, or rural area in the demographic section.

Participants were reached by distributing the online Google Form link through social media and direct messages. The first section of the questionnaire contained information about the researcher's identity and an explanation of the study, followed by a statement requesting participants' consent to participate in the research. In the second section, participants provided demographic information, including their place of residence, categorized as urban, suburban, or rural area. In addition to place of residence, other demographic information collected included gender, age, marital status, current level of education, employment status, province of origin, and ethnic identity.

The reliability of the locus of control measure was assessed by the researcher using data from the used tryout involving 392 respondents, with the assistance of JASP version 0.95.4. The Cronbach's alpha reliability estimates indicated a satisfactory level of reliability, ranging from 0.70 to 0.80 (DeVellis & Thorpe, 2021), for each component: 0.763 for ILOC, 0.759 for CLOC, and 0.799 for POLOC. Item discrimination indices for the ILOC component ranged from 0.336 to 0.549, those for the CLOC component ranged from 0.300 to 0.577, and those for the POLOC component ranged from 0.348 to 0.635. These results indicate adequate item discrimination, as the coefficients exceeded 0.25 (Azwar, 2022). Based on the reliability estimates and item discrimination indices, it can be concluded that the IPCS scale used in this study demonstrated high validity and reliability.

Data analysis

This study is a comparative study involving three groups; therefore, the assumption tests are including tests of normality and homogeneity. If the research data are found to be normally distributed and have equal variances, the hypothesis testing will use analysis of variance (ANOVA). However, if either of the parametric assumptions is not met, hypothesis testing will use the non-parametric Kruskal-Wallis test with the assistance of JASP version 0.95.4.

3. RESULTS AND DISCUSSION

Participants' Characteristics

The participants in this study were predominantly female, accounting for 68.1 percent of the total participants. The proportions of participants residing in urban and suburban areas were relatively similar, at 39.0 percent and 39.8 percent, respectively. The majority of participants were adolescents and young adults (84.4 percent). More detailed data are presented in Table 1.

Table 1. Participants' characteristics

Demographics	Groups	f	Percentage
Gender	Male	125	31.9
	Female	267	68.1
Total		392	100
Place of residence	Urban area	153	39.0
	Suburban area	156	39.8
	Rural area	83	21.2
Total		392	100
Age (years old)	18-23	331	84.4
	24-29	42	10.7
	30-35	9	2.3
	36-40	10	2.6
Total		392	100

Descriptive Analysis

Based on the processed data, the empirical mean scores for each LOC component across the three residential areas were found to be relatively similar. A noticeable difference

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in mean scores was observed for the POLOC component, with participants from urban areas having the highest mean score ($M = 28.07$) compared with the other two residential groups. However, whether this difference represents a statistically significant difference or is merely due to chance will be determined through hypothesis testing. Detailed descriptive data are presented in Table 2.

Table 2. Descriptive statistics of LOC components

LOC Components	Places of Residence	Mean	SD	Min	Max
Internal Locus of Control (ILOC)	Urban area	36.54	5.702	14	48
	Suburban area	36.67	5.619	17	48
	Rural area	36.65	6.271	15	48
Chance Locus of Control (CLOC)	Urban area	28.66	5.592	15	42
	Suburban area	28.19	6.653	8	44
	Rural area	27.70	7.498	8	41
Powerful other Locus of Control (POLOC)	Urban area	28.07	6.835	12	43
	Suburban area	25.85	7.131	8	43
	Rural area	25.61	7.342	8	48

Assumption Test Results

The distribution of scores was assessed by comparing the distribution of data for each LOC component with an ideal normal distribution curve. The comparison showed that each locus of control component exhibited a distribution resembling a normal distribution, characterized by a single peak located at the center of the distribution. Homogeneity across residential groups was assessed using Levene's test to determine whether the variances of each component were homogeneous across groups. The results of the homogeneity test showed that the ILOC component had homogeneous variances ($p = 0.915$, $p > 0.05$), the CLOC component also had homogeneous variances ($p = 0.10$, $p > 0.05$), and the POLOC component likewise showed homogeneous variances ($p = 0.690$, $p > 0.05$). Since the assumptions of normality and homogeneity were met, the analysis used in this study was analysis of variance (ANOVA) with the assistance of JASP version 0.95.4.

Hypothesis Testing Results

The comparative hypothesis testing was conducted using ANOVA because three groups were compared and the assumptions for parametric comparative analysis, namely normality and homogeneity, were met. Table 3 presents a summary of the ANOVA results for each locus of control component.

Table 3. ANOVA test results

Components	Significance Value
Internal Locus of Control (ILOC)	0.978 ($p > 0.05$)
Chance Locus of Control (CLOC)	0.540 ($p > 0.05$)
Powerful other Locus of Control (POLOC)	0.007 ($p < 0.05$)

The ANOVA results showed no significant differences between groups for the ILOC and CLOC components. However, a significant difference between groups was found for the POLOC component ($p = 0.007$, $p < 0.05$). Therefore, a post hoc test was conducted to identify which pairs of residential groups differed significantly. The post hoc analysis used the Scheffé test, as it is considered one of the more conservative post hoc procedures and provides protection against Type I errors (Gravetter & Wallnau, 2013). It is also suitable when the sample sizes across the groups being compared are unequal. The post hoc results are presented in Table 4.

Table 4. Post hoc test results

		Mean Difference	SE	df	t	Cohen's d	p_{scheffe}	Power Analysis
Urban area	Suburban area	2.219	0.804	389	2.762	0.314	.023	.990
	Rural area	2.451	0.963	389	2.546	0.347	.040	.946
Suburban area	Rural area	0.232	0.960	389	0.241	0.033	.971	.945

The post hoc analysis showed a significant difference in POLOC between urban and suburban ($p = 0.023$, $p < 0.05$), with an effect size of $d = 0.314$, as well as a significant difference between urban and rural areas ($p = 0.040$, $p < 0.05$), with an effect size of $d = 0.347$. Based on Cohen's classification, these values ($d = 0.3$) indicate a small effect (Gravetter & Wallnau, 2013). In contrast, no significant difference in POLOC was found between suburban and rural areas ($p = 0.971$, $p > 0.05$).

Table 2 presents the descriptive data for each LOC component. Based on the hypothesis testing results, only the POLOC component showed significant differences across places of residence. As shown in the table, the mean POLOC scores for the small-city and rural groups were relatively similar, with mean scores of 25.85 for the small-city group and 25.61 for the rural group. The large-city group had the highest mean POLOC score among the three groups, at 28.07.

Based on the Post Hoc Power Analysis conducted using JASP, each post hoc comparison yielded a power value above 0.900. This indicates that the research design had very high sensitivity (>90 percent) for detecting differences in POLOC across places of residence. Therefore, the hypothesis testing results can be considered reliable, with a low risk of Type II error.

Discussion

The purpose of this study was to examine: (1) Whether there are significant differences in ILOC among the large-city, small-city, and rural groups; (2) Whether there are significant differences in CLOC among the large-city, small-city, and rural groups; and (3) Whether there are significant differences in POLOC among the large-city, small-city, and rural groups. Based on the results of hypothesis testing using ANOVA, the first research hypothesis ($p = 0.978$, $p > 0.05$) and the second research hypothesis ($p = 0.540$, $p > 0.05$) were rejected. However, the third research hypothesis was accepted ($p = 0.007$, $p < 0.05$) since there is a significant difference in the POLOC component among the large-city, small-city, and rural groups. The post hoc test for the POLOC component revealed significant differences between the large-city and small-

city groups ($p = 0.023$, $p < 0.05$), as well as between the large-city and rural groups ($p = 0.040$, $p < 0.05$). In contrast, no significant difference was found between the small-city and rural groups ($p = 0.971$, $p > 0.05$).

The significant differences in POLOC between the large-city and small-city groups ($p = 0.023$, $p < 0.05$), as well as between the large-city and rural groups ($p = 0.040$, $p < 0.05$), with the highest mean POLOC score found in the large-city group ($M = 28.07$), may be explained by differences in culture and environmental conditions. Individuals living in urban areas may exhibit higher ELOC for their direct exposure to more diverse experiences in urban environments and have greater access to resources than individuals living in suburban areas or rural areas (Subhashrao, 2024). Consequently, individuals living in urban areas may be more likely to attribute their behavior to external rather than internal factors. This finding is consistent with the findings of Rani et al. (2025).

The significant difference in POLOC between the large-city group and both the small-city and rural groups may also be explained by the possibility that residential experiences influence how individuals process information about their environment (Feist et al., 2018). Individuals from urban areas may have encountered more external forces that influence their lives than individuals from non-urban areas. As a result, individuals from urban areas may perceive themselves as having less control over their own lives (ILOC) and instead perceive other people as having greater control over their lives (POLOC) (Witt, 1989).

The post hoc analysis of the POLOC component between the small-city and rural groups showed no significant difference ($p = 0.971$, $p > 0.05$). Geographically, suburban areas differ from rural areas in terms of population density, land use, and infrastructure (Badan Pusat Statistik, 2020). However, social relationships and solidarity, such as *gotong royong* (mutual cooperation), in suburban areas often still follow the collective patterns found in rural communities, in contrast to the more individualistic characteristics of urban areas (Muryanti, 2022). Therefore, no significant difference was found in the POLOC component between the small-city and rural groups, as both communities continue to uphold strong values of cooperation that place individuals on relatively equal footing, without emphasizing the influence or control of more powerful individuals.

The ILOC and CLOC components examined in this study also showed no significant differences across places of residence. This may be attributed to the influence of urbanization and globalization, which have accelerated social changes in rural communities in Indonesia, including changes in values, culture, and ways of thinking (Junaedi et al., 2023). These social changes have contributed to shifts in behavioral patterns among rural communities, making them increasingly similar to those of urban populations, which may be reflected in the findings of this study.

In addition, Indonesia is a country where 98 percent of adults consider religion to be important (Stirling, 2024). This indicates that the majority of Indonesians continue to hold strong religious beliefs and faith in God and divine will. Consequently, the CLOC component, which reflects beliefs in fate, did not show significant differences among participants from urban, suburban, and rural areas. As suggested by Subandi (2021), religiosity among Indonesian communities is often manifested through an attitude of *pasrah* (surrender or acceptance), which may explain the absence of significant differences in the CLOC component.

The findings of this study differ from previous studies that reported significant differences in ILOC among individuals living in urban, suburban, and rural areas (Ciuba et al.,

2025; Tsiring et al., 2023). This discrepancy may be explained by examining the characteristics of the samples used in previous studies. The previous studies (Ciuba et al., 2025; Tsiring et al., 2023) involved samples with specific health conditions, meaning that differences in healthcare facilities and access between urban and non-urban areas had a greater influence on the LOC orientation of the participants. In contrast, the sample characteristics in the present study were more general, which may have contributed to the different findings.

This study adds to the scientific evidence regarding differences in LOC across residential groups in Indonesia. However, upon further examination, the sampling method used in this study was non-probability sampling, and the questionnaire was distributed online. This may have resulted in limited participant diversity, particularly in terms of age and place of residence. Another limitation is that only individuals with internet access and some form of access to the researcher were able to participate in the study. Given these limitations, future research could distribute printed questionnaires to include participants who do not have internet access. In addition, stratified or quota sampling could be employed to ensure a more balanced number of participants across groups.

As shown in Table 1, the participants in this study were predominantly adolescents and young adults. Although the power analysis indicated that more than 90 percent of the statistical tests had sufficient sensitivity to detect actual differences in the population, participants in this study were only asked to identify their place of residence category rather than their specific geographic location. Indonesia's large number of islands and diverse cultures, combined with disparities in development, education, healthcare, and other factors across regions, may influence individuals' LOC orientation. Angelova (2016) found that socioeconomic status and educational attainment influence individuals' LOC orientation, yet these variables were not measured in the present study. Therefore, future research could incorporate socioeconomic status, educational attainment, or specific geographic areas as variables to further examine their relationship with LOC orientation.

4. CONCLUSION AND RECOMMENDATIONS

This study shows that individuals' LOC orientation varies based on their place of residence. In particular, individuals living in urban areas have a stronger belief that their behavior is controlled by powerful others. This suggests that individuals living in urban areas may be more susceptible to interactions with more powerful individuals, such as workplace superiors, organizational hierarchies, and job demands. The findings of this study may serve as a consideration for developing interventions for individuals living in urban areas to prevent excessive POLOC orientation and maintain a healthy level of ILOC.

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