The Relationship Between Leisure and Poverty: A Case Study of Atrevi Valley, Georgia

Levan Gurgenidze -Vice Rector for Academic and Research Development, Associate Professor - British University

Abstract

Research on poverty is extensive, but it neglects to measure the impact of leisure on socio-economic well-being. This article addresses this gap through empirical research in the Atrevi Valley, Gori Municipality, Georgia. The study finds that access to leisure significantly predicts overall poverty score ($p < .01$), accounting for 21.2% of the variance in the model. The comparison of local poverty dynamics with established global frameworks demonstrates the need for integrating leisure into multidimensional poverty assessments. There is a critical need to further cross-national research to measure global extent of leisure's influence on poverty.

Keywords: Multidimensional poverty, Financial resilience, Income diversification, Economic vulnerability, Poverty measurement, Social exclusion,

Introduction

A survey was conducted in the Atrevi Valley, Gori Municipality, Georgia in 2024. The villages surveyed included: Tsedisi (population ~200), Bnavisi (population ~200), Olozi (population ~ 100). 44 families participated in the survey (total population 163). The Valley was selected in close collaboration with the Development Agency of Gori Municipality due to its perceived socio-economic challenges.

Researchers from all over the world have assessed the impact of different factors on poverty. The consensus is that poverty is multidimensional and that many factors can impact it. As literature on this is vast, a "first principles" approach allows for a clearer, more foundational understanding of poverty. This article establishes the first principle of understanding poverty in the first part. The second part examines different factors affecting poverty levels globally. This part will also present the gap in understanding the behavioral drivers of poverty. It will introduce a causal argument between leisure and poverty. The third part will present the findings of the survey in the Atrevi Valley and provide a comparison with global metrics. It is interesting to see how global understanding of poverty relates to the socio-economic challenges in the Atrevi Valley. The final part provides a rigorous regression analysis of the survey findings to measure the relationship between leisure and poverty.

What is Poverty?

Dictionaries provide similar definitions: Oxford English Dictionary defines poverty as "the state of being poor; the condition of having insufficient resources or income." Cambridge Dictionary defines it as "the condition of being extremely poor." Merriam-Webster provides a monetary definition of poverty: "the state of one who lacks a usual or socially acceptable amount of money or material possessions." Collins English Dictionary: "The state of being extremely poor; the state of having very little money. Can also refer to lack or deficiency in quality or quantity." An important detail in the definition of poverty is its subjective character. The understanding of the term "Insufficient" can differ for people. The understanding of the term can also depend on the values people have. A person who values personal relations, may define poverty as having few or no friends. A person who values monetary success, will have a monetary definition of poverty. The definition of poverty is ambiguous, which makes it a complex concept - having many forms, thus multiple factors affecting it.

Education is the most important factor enabling upward mobility and solving different challenges for people. Education is also a safeguard against poverty. It improves employment opportunities, income potential and socio-economic resilience (Hofmarcher, 2021). Poverty creates barriers to education, strengthening intergenerational disadvantage (Sosu et al., 2026). The lack of literacy and numeracy skills causes poverty of younger generations (UNICEF, 2022). Improving educational access and quality enables sustainable poverty reduction.

Financial literacy is an important capability in poverty alleviation. It affects behavioral change that increases market participation, resulting in positive long-term economic outcomes. It also increases the use of formal financial services, insurance and loans, and builds confidence for entrepreneurial behavior (Wang et al., 2022; Xu et al., 2023). Financial literacy also encourages saving, investment and long-term financial planning, which, according to Lusardi et al., (2017) and Van Rooij et al., (2012) reduces wealth inequality. Lang et al. (2024) conducted a cross-country

research that confirms the role of financial literacy as one of the key factors reducing poverty especially among women and rural populations. Financial literacy as a factor influencing entrepreneurial activity and self-employment was also found by Ćumurović and Hyll (2019) and Bilal et al. (2021). Thus, financial literacy enables people to make rational economic decisions and create opportunities to solve their challenges collectively called poverty.

Entrepreneurship is a powerful factor reducing poverty through commercial activities. The development of micro, small and medium size enterprises are a critical engine in reducing poverty, creating economic opportunities and fostering inclusive growth (DIW, 2024; UVU, 2024). Particularly positive effects come from entrepreneurship in tourism, which can create community-level benefits by creating local jobs, increase income and enhance local development (Aquino and Boluk, 2024; Wang et al., 2024). Education and social capital development are important factors here that strengthen trust, cooperation and collective efficacy. These improve enterprise performance and support sustainable poverty reduction (Anzules-Falcones et al., 2021; Smith, 2020). Lifelong learning in the form of business training, enhancing partnerships and widening networks, and development services improve management practices and enable effective growth for enterprises (World Bank, 2024; OECD, 2004).

Stemming out of financial literacy, financial inclusion, i.e. access to credit, savings and insurance, reduces poverty. According to Koomson et al., (2020a) increased financial inclusion has a significant effect on lowering both - current poverty and the risk of falling into poverty. Grohmann et al., (2018) stresses the importance of financial literacy in this regard, as it enables people to effectively participate in financial systems. Financial literacy can also generate wider benefits, such as improved access to healthcare according to Koomson et al., (2020b). Microcredit and microfinance are essential instruments, especially for the vulnerable groups such as women and the poor, to improve living standards and generate income (ADB, 2021; Hur et al., 2025). But, evidence shows that the effects of Microfinance can be uneven or modest, failing to reach the poorest populations effectively (World Bank, 2015). Successful application of these instruments to enhance economic participation, resilience and multidimensional poverty eradication, require effective balance of financial literacy and appropriate policy design.

Another aspect of financial literacy, debt and particularly - over-indebtedness, serves as a poverty enabler, which sustains or deepens poverty. It creates a self-perpetuating poverty trap, with significant effects on health and well-being (Iskander et al., 2025). Indebtedness creates economic instability, barriers to access services and reduces resilience for households (Li et al., 2025). Effective debt management is a critical aspect of financial literacy that is essential for families to avoid poverty traps (Asok and Cox, 2026). Debt-relief is a policy option that has a potential of breaking poverty cycles (World Bank, 2024). But its effectiveness is often contested.

Income diversification benefits household financial health. It is a key mechanism for reducing monetary poverty. Multiple studies highlight the risk of dependence on solely one income source (Oseni et al., 2014). Especially when the source is agriculture, which depends on weather and climate. Combining agricultural activities with non-agricultural income, for example running a small business or wage employment, reduces vulnerability and strengthens economic resilience (IMF, 2000; Birthal et al., 2014). The evidence from South Africa shows the effectiveness of non-farm income generation in lifting rural households out of poverty (Mathinya, 2025).

Economic mobility, such as migration, is an important mechanism for poverty alleviation. Increasing economic use and effectiveness of labor force by moving from an area of low labor demand to an area of high labor demand, allows families not only to improve living standards, but also to send remittances to the family members who are unable to travel (Siddique et al., 2016; Coulibaly and Dembélé, 2024). Migration also improves human capital development and wider socio-economic benefits (World Bank, 2024). The impact depends on the type of migration and internal remittances to be effective usually require effective policies (OECD, 2005). A

well-managed migration, for example internal and South-South migration, effectively reduces extreme poverty (GSDRC, 2024; Poverty Evidence, 2024).

Health is an important factor in poverty alleviation: lack of it creates or exacerbates poverty; abundance of it enables an impoverished person to solve some of its challenges. Lack of access to healthcare services and financial protection from medical expenses is the cause of extreme poverty for millions every year (WHO, 2017). Reproductive health ensures women's well-being, which increases their economic activity and breaks poverty cycles (Finlay and Lee, 2018). UN Women (2023) states that reproductive health and rights have a positive effect on both - economic outcome and social inclusion. Proactive health planning through regular check-ups and vaccination save families from costly medical services and safeguard them from poverty (Jiao et al., 2022). Health is essential for a sustainable socio-economic mobility.

Violence and poverty have a capacity to affect each other. Violence deepens the complexity of poverty. Monetary poverty increases the risk of poverty (World Bank, 2023). Although debated, cash transfers on the household level show promise to reduce domestic violence. It also lifts financial burden and improves well-being (Barrington et al., 2021). Crime increases vulnerability and undermines stability, making families prone to poverty (OPHI, 2024). Security is one of the foundational components to avoid or reduce poverty.

Another foundational feature to avoid or reduce poverty is infrastructure, in particular rural transport. Connectivity and access to markets create economic opportunities for people. Improving rural roads has a significant effect on reducing poverty and improving access to jobs, services and markets (Nakamura et al., 2021). It also reduces transaction costs, increases income-generating opportunities, and makes families more resilient to shocks.

Part of the essential infrastructure to reduce poverty are electricity and sanitation. Reliable electricity improves productivity and enables economic activities that reduce poverty. It also enhances access to water and sanitation services (Handayani et al., 2024; Asghar et al., 2022). UN (2023) considers energy access and poverty reduction as closely linked within the broader sustainable development framework. Inadequate water, sanitation and hygiene (WASH) are critical in human well-being and poverty dynamics. They are major factors of poor health and mortality (WHO, 2024). Access to WASH is critical for alleviating poverty. A feature that improves the effectiveness is adopting proper hygiene practices (World Bank, 2017; UN-Water, 2024). Improving reliable electricity access and WASH infrastructure improves living standards, health outcomes and sustainable poverty reduction.

Food security and nutrition have a significant effect on poverty alleviation. They benefit health, productivity and overall well-being. Inadequate nutrition, exacerbated by poor water and sanitation, is the cause of illness in developing countries. It also makes households vulnerable and economically unstable (Global Affairs Canada, 2024). Inadequate nutrition can have generational effects as it affects brain development and functioning. Inadequate nutrition intake has a potential to create generational poverty, with strong barriers to break (UNICEF, 2019). Nutrition and food security are foundational features for avoiding or reducing poverty.

Housing affects poverty within the dimension of living standards and is essential for reducing it. In developing countries, where the economy develops rapidly and creates winners and losers in the process, affordable and adequate housing is an important component for reducing and avoiding poverty. Housing affordability improves household well-being, financial stability and overall quality of life (Habitat for Humanity, 2024). It also reduces vulnerability, improves access to services and enables households to allocate resources more effectively towards health, education and economic activities.

Another safeguard to poverty is social protection. It functions as a mechanism for reducing or avoiding the risk of poverty. It strengthens the resilience of households and the capacity to cope with shocks (GSDRC, 2024; Barrientos and Hulme, 2008). Social protection can have many forms, it can be direct assistance, insurance-based mechanism or other. The key here is that it can target

different dimensions of poverty (PMC, 2024). In rural areas, social protection is key to avoid or reduce poverty because of the unreliable nature of agricultural productivity (FAO, 2024).

Psychological factors, such as hope, play a crucial role in shaping poverty dynamics. Low aspirations, limited agency and low self-esteem can trap people in poverty cycles by constraining their decision-making, risk-taking and engagement with opportunities (Lybbert and Wydick, 2024). As a result, people have less or no ability to pursue economic advancement, which reinforces self-perpetuating poverty cycles, even when external resources are available. Hope in the form of aspiration, agency and perceived opportunities, functions as an enabler for breaking poverty traps and supporting upward mobility.

Effective participation in society in the form of political participation or civic engagement affects human capital and socio-economic conditions. Political participation includes more than just voting and is important for development outcomes (UNDP, 2024). Youth engagement in political affairs is a crucial driver for long-term development (IFES, 2025). According to Fahmy (2018) poverty functions as a barrier to political participation in the form of social exclusion, which limits individual's ability to participate in civic and political affairs.

The Gap in Poverty Analysis

Leisure is not considered enough when it comes to understanding multidimensional poverty. For the purpose of this study, the definition of leisure is: having resources for active and physical leisure, i.e. sports, outdoor adventures, wellness, travel; pursue creative or intellectual activities, i.e. lifelong learning, games, creative arts, culinary arts; social and community based entertainment, i.e. socializing, nightlife, volunteering, events; media and digital entertainment, i.e. consuming digital content, gaming, audio, sports; pursuing cultural and performing arts, i.e. attending a theatre play, live music, visiting museums or galleries. Leisure is resources spent away from business, work, job hunting, and domestic chores. It excludes time spent on necessary activities like eating and sleeping. It includes activities where one engages due to interest and pleasure. *Leisure poverty is lacking resources to pursue activities outside necessities*.

The quality and utility of leisure is an important aspect of meaning in life (Iso-Ahola, et al, 2023). Leisure acts as stress and life pressure relief. It can increase intrinsic motivation. It can also build resilience, improve mental health and well-being (Iwasaki, 2006). Leasure leads to positive emotions, and positive emotions lead to more motivation, creativity and action (Fredrickson, 2001). Psychological resourcefulness enables people to do more. Resourcefulness lies in psychological, social and cognitive factors: resilience, motivation, relationships, skills and knowledge. Positive emotions lead to long-term capability building. They also have self-reinforcing cycles, where feeling good leads to doing more, achieving more, feeling even better.

Perception of individual poverty is subjective and it is linked to deficiency of something in one's life. But not enough emphasis is given to a deficiency of leisure in poverty analysis, which is a very important factor affecting the well-being of people. Having resources to pursue activities outside necessities - time, money and emotion, can have a significant effect on the overall level of poverty, because it can motivate people to do more. It influences how a person views one's environment and relieves stress. If economic well-being is defined by the availability of disposable income, then there is a need for a holistic understanding of human well-being defined by the quality and utility of leisure.

What is Poverty in the Atrevi Valley

The survey measured the variables on a scale of 1 (problem exists) to 3 (problem does not exist). The families in the Valley show remarkable strength in social cohesion and psychological resilience. But there are problems in terms of financial stability and physical infrastructure.

Education and in particular Literacy with the score of 2.98, is a clear strength in the Valley. There is a low incidence of child labor with the score of 2.56, which shows that families are prioritizing schooling. School completion is 2.47, which is quite high. Educational resources is 2.3, which is also a positive result.

There is a significant instability in the Valley regarding the financial conditions. Only Income Generation is above the midpoint at 2.02. All the rest of the variables are in the problem zone: Family Savings is at 1.1, the lowest-scoring variable, Family Income - 1.59, Insurance - 1.66, Family Budget - 1.9. This means that almost none of the families have any sort of savings. Members of the families have some skills to generate income, but most of the families hardly manage costs due to low income level. It also shows that most of the families do not have insurance, which makes them vulnerable to shocks. Many families do not manage their budgets on a constant basis.

The score for Entrepreneurship is 1.8, which is quite low. Some families engage in local production, but they lack capacity to scale for larger markets. When offered opportunities to sell produce in Tbilisi, families stated that they do not have sufficient volume. There is an appetite for growth, which can be seen by the desire of families to learn hospitality management and pursue their family hotels. But there is a systematic lack of opportunity that prevents families from materializing their ambitions. Based on this, it is no surprise that Income Diversification is at 1.7, meaning that families mostly depend on one income.

Access to credit is at 2.38, which means that loans are accessible for most of the families. The debt is at 1.9, meaning that some families have an issue managing their debt level. This means that families are utilizing credit access, but many are cautious not to over-burden themselves with unmanageable debt.

Health is the second most problematic issue in the Valley. Reproductive health is at 1.4, which means that women do not regularly go to a doctor. Despite such a low figure, families stated that access to health services was at 2.02, which means that most of the families have access to health services. Vaccination is at 2.25, which plays a crucial role in proactively avoiding costly medical bills.

Despite monetary hardship, there is a high social capital in the Atrevi Valley. Safety rate is high, most families stated that they have not encountered any incidents of violence (2.45). Theft was at 2.68, which means that it was encountered even fewer times than violence in the Valley. The neighborhood was evaluated quite positively, at 2.63.

The physical environment has contrasting results. Electricity is at 2.84, which means that almost every family said that they had 24/7 electricity. Waste Management was at 2.36, which means that most families stated that waste was managed adequately by the municipal service. In contrast, Roads was evaluated at 1.9, which means that there is an issue in terms of road infrastructure in the Valley. Transport is a slightly bigger challenge, at 1.8. This creates barriers to families to connect with larger cities - Gori and Tbilisi to seek monetary improvements.

Food and Drinking Water are both 2.3, which means that most of the families have regular meals, three times a day and there were very few instances when members of their family went to sleep hungry. Drinking water is an issue to few families but it is acceptable for most. Home ownership is at 100%, which is a very good safeguard from external shocks. This eliminates the issue of housing affordability. Also, most of the families have TVs and Fridges (2.3) and maintain high standards of hygiene (2.65). Bedrooms were evaluated at 2.59, which means that most of the members of families have their own bedrooms. Walls and Roofs were evaluated at 2.29, meaning

that few families had a leaking roof or damaged walls. Kitchen and Bathroom both received a lower score - 2.04 and 2.02 respectively. This means that this is somewhat an issue to families. Some families have wood-fire stoves and insecure bathrooms which do not have central water connection - and work only with a water tank.

Psychological resilience is high in the Valley: Self-esteem is at 2.77, competence - 2.7 and independence - 2.66. This means that the population feels capable and autonomous. The score for hope was 2.25, which indicates a generally optimistic outlook towards the future. It has to be noted that this study did not include data on formal social protection or government transfers, focusing instead on these intrinsic psychological assets.

There is a striking disconnect between civic participation and political trust. While voting participation is at 2.79, which means that most of the families regularly vote in elections, the perceived influence on government is at 1.97. This means that the majority of families do not have faith in the government being responsive to their needs and requests.

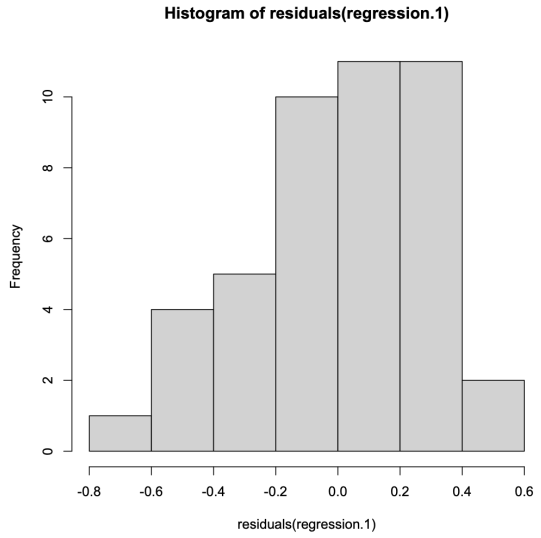
When measuring the families' financial, temporal and emotional resources for leisure, the score is 1.5, which is one of the lowest-scoring variables. This shows that while the people of Atrevi Valley are resilient, hopeful, and self-sufficient in many ways, they are "leisure-poor." This lack of restorative time and resource allocation for enjoyment represents a profound but often ignored dimension of multidimensional poverty.

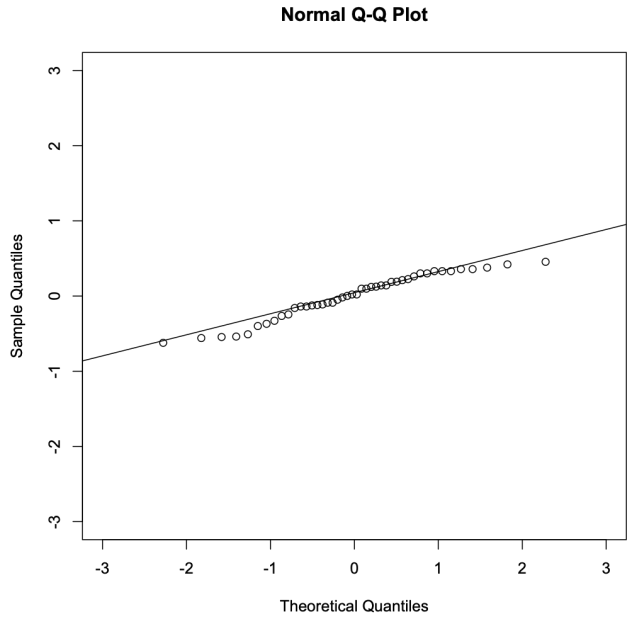
Estimation and result

A simple linear regression is conducted between leisure and overall poverty rate of a family (n=44). Leisure is an independent variable, with options of 1 (No resources for leisure), 2 (Some resources for leisure) and 3 (Resources are available for leisure). Overall poverty rate is calculated by an average of all responses across all variables and the value is continuous. Regression analysis showed that the coefficient for leisure is 0.203 at 99.9% level, $p < .01$. The effect is statistically significant, but modest. This means that the overall perception of challenges for families is affected by the resources they have/spend on leisure activities. One unit increase in leisure would equal to 0.203 point reduction in overall poverty rate for families. The model explains 21.2% of the variance in the overall poverty rate.

Model Diagnostics:
To ensure the reliability of these findings, diagnostic tests were performed:

Normality check was conducted by creating a histogram of residuals:





and QQplot with a 45 degree line:

Shapiro-Wilks normality test confirmed that the residuals are more or less normally distributed:
The null hypothesis: the residuals are normally distributed.

data: residuals(regression.1)
W = 0.94806, p-value = 0.04661

Based on these, we can state that residuals are more or less normally distributed.

To check the independence of errors, Durbin-Watson Test was conducted:
Null hypothesis: there is no correlation among the residuals.

data: regression.1
DW = 1.7134, p-value = 0.1701

The p-value is high and we cannot reject the null hypothesis. This means that there is not significant autocorrelation and that errors are independent. The model's residuals can be considered independent and we can be confident in the results of the regression.

To check the Homoscedasticity, the Breusch-Pagan test was conducted:
The null hypothesis: The independent variable does not have a significant effect on the residuals, and thus, the error term. In other words, the variance of the error term is constant.

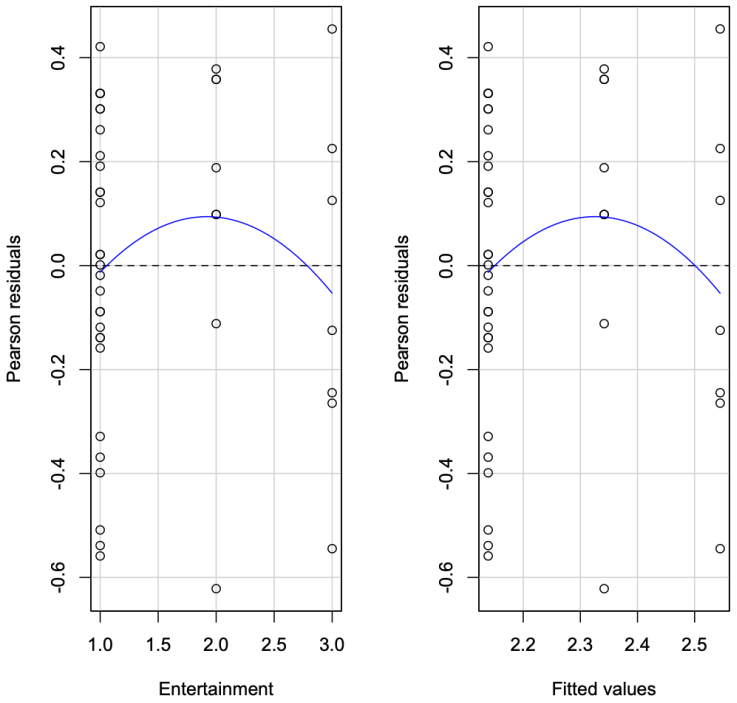
data: regression.1
BP = 0.59475, df = 1, p-value = 0.4406

The p-value is high, so we cannot reject the null hypothesis. This means that there is not significant heteroscedasticity (errors have a constant variance).

The curvature test was conducted to check Linearity:
The null hypothesis: The relationship is linear.

	Test stat	Pr(>|Test stat|)
Leisure.	-1.0182	0.3146
Tukey test	-1.0182	0.3086

Since the p-value for Leisure is quite high (0.3146), we fail to reject the null and state that the relationship is linear and that there is no evidence of non-linearity.



Influence & Leverage: Analysis of Hat values and Cook's Distance (max \D_i = 0.23) confirmed that while a few high-leverage points exist (standardized hat values = 2.48), they do not unduly influence the model coefficients or distort the results.

The regression model satisfies all standard OLS assumptions and provides a robust estimation of the impact of Leisure on MPI.

Conclusion

This study demonstrates that leisure has a statistically significant impact on poverty levels within the Atrevi Valley. The findings suggest that the ability to allocate resources toward non-essential activities—such as social outings, sporting events, or cultural engagements—is a critical determinant of perceived quality of life. Beyond mere subsistence, leisure fosters emotional wellbeing and social connectivity, which are vital components of holistic prosperity. While these results provide valuable insights into the Atrevi Valley, the geographic scope remains a limitation. Further research across diverse global contexts is essential to determine how the relationship between leisure and poverty manifests in different cultural and socioeconomic settings.

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Regression Analysis

lm(formula = Overall Poverty Rate ~ Leisure)

Residuals:
```
    Min      1Q  Median      3Q     Max
-0.62173 -0.14373  0.02127  0.23427  0.45527
```

Coefficients:
```
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.93573    0.10130  19.109  < 2e-16 ***
Leisure      0.20300    0.06034   3.364  0.00165 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Residual standard error: 0.3017 on 42 degrees of freedom
Multiple R-squared: 0.2123, Adjusted R-squared: 0.1935
F-statistic: 11.32 on 1 and 42 DF, p-value: 0.001649

The p-value being extremely small is a good sign, showing that the independent variable is a significant positive driver of Overall Poverty Rate. So, it is highly unlikely that the relationship is due to a random chance.

The Multiple R-Squared being 0.2123 means that 21.2% of the variation in MPI can be explained by Entertainment. It shows that Entertainment is a meaningful factor.