APPLICATIONS OF THE NUDGE THEORY IN THE SUPPORT OF CHILDREN IN DIFFICULTY

Scientific Researcher, Ph.D. Student, Mihail CIOBANU
Section "Social research and the standard of living",
National Institute for Economic Research, Academy of Economic Studies of Moldova
E-mail: ciobanu.mihail.s@gmail.com,
ORCID ID: https://orcid.org/0000-0003-1193-6018

Abstract: *Children are a vulnerable group of population due to their need of support in meeting their fundamental needs. Their welfare depends on one side on the influence of environment where they live and on another side - on their own choices, on the behavior they manifest. In the behavioral school of economic thought it's considered that children behaviors, especially those in difficult situations, can be influenced to produce desirable results in the increase of their welfare. Children in difficulty are a vulnerable group that would benefit from the approaches to the socioeconomic support provided by the behavioral economics. The child behavior study in behavioral economics developed at the intersection of economics with development psychology. Nudge theory is one of the main behavioral economics' directions that could offer insights in order to support children in difficulty. The paper aim is to identify good practices based on the principles of nudge theory that are tailored and applied to address socioeconomic challenges of children in difficulty. The work was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union", institutional funding.*

Keywords: *children in difficulty, support, nudge theory, social, economic, application.*
JEL Classification: *D01, D10, I12, J13.*

1. Introduction

Children rely significantly on others to meet their fundamental needs, which places them in a position of particular vulnerability. When the needs aren't met then the children are in the situation of difficulty. Since the needs are of various types, correspondingly, the difficulties are different as well. Difficulties can be divided in: emotional and behavioral difficulties (mental health issues, behavioral disorders), learning disabilities (cognitive delays, specific learning disabilities), social challenges (bullying, deficits of social skills), family and environmental issues (poverty that can limit educational resources, nutrition, safety), family dynamics issues (divorce, abuse, death of a parent or another family member), physical health issues (chronic illnesses, physical disabilities). Children's welfare is affected in a complementary way both by the environment in which they live and by the behavior they demonstrate. Thus, the behavior of the children, but also of the parents, also contributes to the creation of the difficult situation and a way to reduce the effects of these difficulties can provide the approaches to the socioeconomic support from behavioral economics which after being implemented can increase the children's welfare. Behavioral economics is a discipline at the intersection of economics and psychology, that explores the impact of psychocognitive, emotional, sociocultural factors on the economic decision-making made by individuals or organizations. Initially focused on the adults, behavioral economics later covered children as well, with the influences from the development psychology on economic theory. Numerous approaches within behavioral economics hold the potential to provide valuable perspectives for aiding children facing difficulties. This paper seeks to explore how behavioral economics' principles can be customized to confront the socioeconomic difficulties encountered by these children through the lens of nudge theory.

2. The nudge theory overview

The term ”nudge” was introduced by J.Wilk in 1993 (Wilk, 1993) with influences originating from psychotherapy field from the works of G.Bateson, M.Erickson, P.Watzlawick, H.H.Weakland, B.O'Hanlon. Nudge theory was mainly developed and popularized by behavioral economists Richard H. Thaler and Cass R. Sunstein in their seminal work ”Nudge: Improving Decisions About Health, Wealth, and Happiness” (2008). Contrasted with education, legislation, enforcement as ways to influence behavior, according to them, nudging, being an adaptive design, is “any aspect of choice architecture that alters people's behavior in a predictable way, without forbidding any option or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not.” (Thaler & Sunstein, 2008:6). Choice architecture is the design of the various ways in which choices can be presented to decision makers and the impact of this presentation on the decision-making process, including the number of choices, how to describe the attributes of the choices, and the presence of an implicit choice.

Further, in the book „Thinking, Fast and Slow” (2011) Daniel Kahneman discusses the idea of "nudging" within the larger framework of how people make decisions and the field of behavioral economics, based on the work of R.Thaler and C.Sunstein, which advocates for "libertarian paternalism". This approach gently steers individuals towards choices that benefit their long-term well-being while preserving their freedom to choose otherwise. An example given is the automatic enrollment in pension plans; this default setting subtly encourages saving for retirement without removing the option to opt out.

A.Tversky's work with D.Kahneman on cognitive biases and heuristics forms a critical psychological basis for understanding how nudges can be effective. Contrary to D.Kahneman and A.Tversky, who collaborated extensively on identifying biases associated with prospect theory, R.Thaler and C.Sunstein concentrated on pinpointing heuristics—common patterns of thought that frequently result in logical errors—and outlined strategies for nudging individuals or groups towards specific ways of thinking.

The prospect theory was developed by D.Kahneman and A.Tversky in 1979 and it addresses how people make choices between probabilistic alternatives that involve risk, where the probabilities of outcomes are known (Kahneman, 2011). It is particularly concerned with how people value gains and losses, demonstrating that losses have a greater emotional impact on an individual than an equivalent amount of gains—a concept known as loss aversion. Its key concepts include: loss aversion, which represents the preference of people to avoid losses rather than acquiring equivalent gains, reference points (usually the people's status quo) relative to which people evaluate outcomes rather than evaluating in absolute terms, diminishing sensitivity according to which gains and losses grow larger, their subjective value increases at a decreasing rate.

The nudge theory by R.Thaler and C.Sunstein focuses on influencing behavior by changing the way choices are presented to people. It operates under the umbrella of choice architecture and aims to make it easier for people to make decisions that lead to better personal and societal outcomes without restricting freedom of choice. Its key concepts include: choice architecture, which is the practice of influencing choice by organizing the context in which people make decisions, defaults (default options) the use of which require no additional effort from individuals, thus guiding them towards desired outcomes, libertarian paternalism which depicts the idea of designing interventions that nudge people toward beneficial behaviors without curtailing their freedom to choose. On one side, prospect theory explains why people make irrational choices, highlighting the cognitive biases and emotional

influences that affect decision-making. On another side, nudge theory uses insights from behavioral sciences like those provided by prospect theory to design better decision-making environments. Prospect theory is more theoretical, providing a framework to understand decisions under risk. Nudge theory is more practical, providing strategies to influence decisions positively while respecting freedom of choice. Prospect theory helps in understanding the "why" behind decision-making anomalies, while Nudge theory focuses on the "how" to steer decisions in a more favorable direction without coercion. While prospect theory provides the foundational understanding of decision-making biases, nudge theory offers tools to apply these insights in real-world settings to foster better decision-making outcomes.

Others contributors to nudge theory are D.Ariely which conducted experiments and written books like ”Predictably Irrational” (2009), which explore the kinds of cognitive biases and decision-making errors that nudge theory aims to address, M.Shankar that led the White House's Social and Behavioral Sciences Team during the Obama administration in US where applied nudge theory principles to federal government programs to improve their effectiveness, E.Shafir whose work on decision-making and cognitive scarcity complements nudge theory by highlighting how people's decisions are influenced under conditions of limited resources, G.Loewenstein that has explored the role of emotion in decision-making, which is essential for designing effective nudges, D.Laibson the research on time inconsistency and hyperbolic discounting of which has helped explain why people benefit from nudges in settings like savings and health behaviors and others (Ariely, 2009).

3. Applications of nudge theory in the support of children in difficulty

R.Thaler and C.Sunstein also applied the nudge theory and choice architecture to vulnerable children, recommending the application of nudges for their protection. With regard to the support of children separated from their parents, they believe that "[s]tates should clearly state what range of support is generally acceptable as part of income (subject, perhaps, to upper limits). The best approach might be an explicit formula based on factors such as the age of both spouses, their earning capacity, length of marriage and so on." (Thaler & Sunstein, 2008:226).

As noted by R.Thaler and C.Sunstein, the libertarian economist M.Friedman believed that the best way to improve the quality of schools is to introduce competition, as a result of which less advantaged children have the most to gain because rich families can afford to send children to private schools, so he suggests offering education vouchers so that parents can send their children to the school of their choice, and as a result children from poor families would be closer to equality with the more privileged middle and upper class (Thaler & Sunstein, 2008:199). One criticism of vouchers would be the possibility of subsidizing wealthy parents who can already afford to send their children to fancy private schools, and public schools would end up getting kids that private schools don't want. R.Thaler and C.Sunstein criticize the fact that parents implicitly choose the neighborhood school for their children rather than a better performing one.

They analyzed different cases of social mimicry of harmful behaviors, such as the higher probability of teenagers to become pregnant if they observe other pregnant teens, the contagiousness of behavior that leads to obesity, the imitation of ephemeral trends in the media, the academic effort of students influenced more by their roommates or dorm than by college, with major consequences for their grades and their future prospects (Thaler & Sunstein, 2008:55).

If a parent enrolled in a private insurance plan works out at a health club in a given week, has a child enrolled in sports activities, has a blood pressure check with normal results, they can earn "vitality points" that can be used to get plane tickets, hotel rooms, magazine subscriptions, combining health insurance with nudges designed to make him live a healthier life and reduce costs for insurance companies (Thaler & Sunstein, 2008:233).

In order to prevent teenage pregnancies, especially those after the first, within 1-2 years it is suggested to apply a "one dollar a day" program that teenagers receive for each day they are not pregnant. Promising results are noted for the low cost of the program compared to the significant costs for children born to teenage mothers, and the recurring payment "is important enough to encourage teenage mothers to take steps to avoid becoming pregnant again" (Thaler & Sunstein, 2008:234).

They describe an experiment on children with two situations: in the first situation in two adjacent houses the children could approach to choose between the same two chocolate bars (Three Musketeers and Milky Way) at each house, and in the second condition they could approach only one house, where they were asked to "choose any two candy bars they like" from large piles of both chocolates so that the children would not think it was rude to take two of them. The experiment showed that the two situations produced very different results. In the house with both types of chocolates, each child chose one of each candy. But only 48% of the children chose one of each candy when choosing in the two houses one after the other. Although the consequences of choosing two different candies are minimal, "naïve diversification in portfolio selection can have more significant consequences on what people do and how much money they end up with" (Thaler & Sunstein, 2008:123-124).

They also suggest the idea of automatically enrolling absent parents in a payment plan that deducts a fixed amount from their bank accounts monthly to ensure child support, without allowing an opt-out, questioning whether traditional marriage is necessary for child protection and family stability, suggesting that civil unions and private agreements might provide similar benefits and advocating for strong default legal rules to support dependents after the dissolution of long-term relationships, instead of relying solely on the institution of marriage. To strengthen their point they indicate to research that many couples entering into marriage are often unaware of the typical outcomes concerning child support or alimony payments in the event of a divorce.

S.Wolf and G.Lichand (2023) in their article "Nudging parents and teachers to improve learning and reduce child labor in Cote d'Ivoire" explore the effects of sending nudges via SMS to parents and teachers to improve educational outcomes and reduce child labor. The study finds no significant impact on learning outcomes overall, but notes some differences based on various subgroups. Messages to parents alone showed a more positive impact compared to messages to teachers or both groups together. The study highlights the potential of low-cost, scalable strategies to support children's education in marginalized communities, though it underscores the need for further research to optimize these interventions.

Nudge theory is increasingly used in public policy, where governments like those of the US and UK employ behavioral strategies to subtly influence public actions while preserving choice. This is executed through specialized groups such as the UK's Behavioral Insights Team (BIT). Digital nudges for children, for instance, have been tested to curb excessive screen time by changing the screen color to grayscale or limiting phone usage time, proving effective in modifying habits related to mobile use (Parekh, 2022). Additionally, nudges are utilized to foster healthier eating habits without eliminating options. Techniques such as positioning fruits at eye level or employing gentle prompts like emoticon stickers or persuasive text near food items have successfully encouraged better dietary choices in places

like schools and cafeterias. Efforts to encourage choosing stairs over elevators have involved visual prompts like footprints leading to stairs and motivational signs. The success of these nudges has varied, with some showing increased stair use, while others have not observed significant changes or have noted adverse reactions due to feelings of coercion.

Giubilini et al. (2019) in the paper "Nudging Immunity: The Case for Vaccinating Children in School and Day Care by Default" discuss a vaccination policy where children would be vaccinated by default at schools or daycares, but parents would retain the right to opt-out. The proposed policy uses "nudges" that subtly influence decisions, leveraging common decision-making biases to increase vaccination rates without forcing parents' hands. This approach aims to address vaccine hesitancy effectively by making vaccination the easy and default choice, potentially overcoming barriers due to procrastination or indifference. The authors argue that this method is ethically sound as it respects autonomy and could be supported by public opinion, based on their empirical research in the UK. They emphasize that such a nudge is non-coercive and preserves the freedom of choice, which aligns with ethical considerations in public health interventions.

Park and Clemson (2020) identify different nudging strategies can can help children in difficulty to overcome their challenges. Teachers use various visual and interactive strategies to organize classroom activities and promote good habits among young children. Individual carpet mats are placed around a larger rug to help each student identify their own space during circle time. Stick-on feet on the floor guide children to form straight lines, aiding in orderly transitions. Additionally, using transparent soap dispensers with a small toy inside motivates children to wash their hands more often by making the activity more engaging.

Brief psychological interventions can be aimed at enhancing children's sense of social belonging and growth mindset to improve their self-image and confidence in learning. These interventions are particularly beneficial for disadvantaged children or those with a fixed mindset whose learning is impacted by low self-confidence or a negative self-perception. Strategies include creating flexible grouping in the classroom to foster interactions and friendships among diverse students, and providing positive affirmations to support and encourage students as they learn new skills. These approaches help children feel more connected and confident in their educational environment. Extrinsic motivation can be used as a behavioral nudge to promote desirable actions in children, particularly those with behavioral challenges. This strategy involves providing rewards like tokens, praises, and other forms of encouragement to incentivize activities such as reading. For example, children can earn points for each book they read, which can then be exchanged for favorite items like stickers, toys, and stamps. This method is particularly effective for children who require additional motivation through positive extrinsic rewards to encourage appropriate behavior.

Social comparison can be used as an intervention that uses peer pressure and relative grading to encourage children to adhere to social norms by comparing themselves with others. This method is particularly effective in influencing children's behavioral changes using non-monetary rewards. The intervention is noted to be more engaging in mixed-gender groups, where both boys and girls exhibit equal levels of competitiveness. An example can be by using a fun competition game to encourage children to quickly and quietly line up, leveraging their natural competitiveness. However, it is crucial for educators to consider the ethical implications and design these interventions carefully to ensure they promote healthy and ethical competition among children. The strategy of boosting skills can focus on teaching children practical abilities that enhance their competence and enable them to make better decisions. For instance, children who struggle with organizing can be taught how to manage their time and materials effectively to complete tasks within a set timeframe. A specific

example can be through helping children learn to clean up after playing by using labeled bins with pictures and names of toys, teaching them responsibility and enhancing their organizational skills. The default approach leverages children's tendency to opt for preset actions, such as choosing play over study. By setting defaults that encourage more beneficial behaviors, like mixed-gender play, children naturally engage in these without additional effort required. By framing choices in terms of potential loss or gain, children's decisions are influenced. For instance, children might be more motivated to engage in reading if they are told they can choose a toy, but might lose it if they don't read for a set time.

The strategy of peer group manipulations uses peer influence to encourage children to conform to desirable behaviors, such as wearing masks or practicing hygiene, by creating a social environment where these behaviors are the norm. Providing specific, smaller deadlines helps children with self-control issues stay on track. This can be managed with tools like picture checklists or reminder charts to assist children in completing tasks on time. Goal setting involves setting clear, concrete goals to guide behavior. Children are encouraged to set personal goals related to their tasks, helping improve their self-control and focus, like setting a specific amount of time for reading. The method of reminders involves giving children cues about previously learned behaviors or tasks, particularly useful for those with cognitive limitations. For example, reminding children of the time left for an activity helps them complete tasks within the allotted time. Informational nudges presume providing accessible information to help children make informed decisions, especially effective for those with attentional or cognitive limitations. This can involve explaining rules or providing social stories that guide appropriate behavior. Offering one-on-one help and making learning materials easily accessible to support children's learning, is particularly beneficial for those with cognitive or attentional challenges. An example is teaching children to sing a song while washing hands to ensure they do it for the necessary duration.

In their article, Lycett et al. (2017) conducted a systematic review to assess the effectiveness of nudge interventions on children's eating habits at home, analyzing studies from January 1996 to January 2015. These interventions subtly modify the environment to encourage healthier eating without heavily limiting choices. The review included 40 studies, with 33 (83%) showing improvements in dietary behaviors like increased vegetable consumption and reduced intake of unhealthy foods. The findings were particularly notable in older children and adolescents. However, the overall quality of the studies was relatively low: 43% were rated as weak, 40% as moderate, and only six studies were considered strong, highlighting concerns about the studies' quality and the broad applicability of the results. Research focused on controlled studies suitable for home settings and excluding those related to specific medical conditions. The review underscored the effectiveness of nudges in influencing short-term dietary choices, but questioned their long-term impact and effectiveness in real-world scenarios. This calls into question whether these behavioral changes can be sustained over time and contribute to long-term health outcomes like weight management. Most studies looked at nudges in isolation and focused only on immediate impacts, leading to uncertainties about their enduring effectiveness. Despite these limitations, nudges hold potential as part of comprehensive public health strategies aimed at improving children's diets, provided future research can overcome existing methodological shortcomings.

While nudges are widely used and can be effective in various behavioral domains, their success depends on how they are designed and implemented, reflecting the need for careful consideration of the choice architecture and the context in which nudges are applied.

4. Conclusions

The exploration of nudge theory in the socioeconomic support of children in difficulty reveals several critical insights and potential avenues for effective interventions. Nudge theory, rooted in behavioral economics, leverages subtle changes in choice architecture to guide individuals towards better decisions while maintaining their autonomy. This approach has significant implications for supporting vulnerable children across various domains. Nudge theory has been successfully integrated into public policies to influence behaviors in non-coercive ways. Governments have utilized this approach to address issues ranging from public health to education. For children in difficulty, nudges can be strategically applied to enhance educational outcomes, promote healthy behaviors, and reduce harmful practices like child labor. Specific applications in educational settings, such as nudging parents via SMS to improve school attendance and reduce child labor, demonstrate the theory's practical benefits. Various practical measures can be used as nudging strategies as effective ways to support children's learning and development, especially, the ones in difficulty, like using visually guided layouts for activities and transparent soap dispensers with toys to encourage handwashing, fostering a growth mindset through flexible grouping and positive affirmations, extrinsic motivation techniques such as rewards for reading, and the use of social comparison to encourage behavioral change, teaching practical skills, setting beneficial defaults, using peer influence, and providing reminders. However, the mixed results of such interventions underscore the need for targeted research to optimize their impact. Health-related nudges, like default options for vaccinations, show promise in addressing public health challenges by making healthier choices the easier option. In domestic environments, nudges have proven effective in promoting healthier eating habits among children. While the evidence suggests immediate improvements in dietary behaviors, the long-term sustainability of these outcomes remains uncertain. Future research should focus on the enduring impacts of dietary nudges and their integration into broader health strategies. The application of nudge theory is not without challenges. Its success heavily depends on the contextual and cultural specifics of the target population. The design and implementation of nudges must be carefully considered to avoid perceptions of coercion, which can diminish their effectiveness. Additionally, ethical considerations must be addressed, particularly in interventions involving vulnerable populations like children. Moving forward, it is crucial to continue refining the methods and strategies of nudge theory in child-related interventions. Collaborative efforts between policymakers, behavioral scientists, and educators are essential to create an inclusive framework that can adapt to diverse needs. There is also a pressing need for robust, long-term studies to assess the impact of nudges on children's long-term development and well-being. Nudge theory offers a compelling framework for developing interventions that can significantly improve the welfare of children facing socioeconomic difficulties. By carefully designing choice architectures that respect freedom and encourage beneficial choices, policymakers and practitioners can make substantial strides in supporting vulnerable populations. However, the nuanced nature of human behavior necessitates ongoing research and adaptation to ensure the ethical and effective application of this theory.

Note: The article was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union", institutional funding.

References:

1. Ariely, D., 2009. *Predictably Irrational: The Hidden Forces that Shape Our Decisions*. Harper Collins UK. [online]. Available at: <http://books.google.ie/books?id=kApgNtTsAccC&printsec=frontcover&dq=Predictably+Irrational+ariely&hl=&cd=2&source=gbs_api> [Accessed 10 February 2024].
2. Giubilini, A., Caviola, L., Maslen, H., Douglas, T., Nussberger, A.M., Faber, N., Vanderslott, S., Loving, S., Harrison, M. And Savulescu, J., 2019. Nudging Immunity: The Case for Vaccinating Children in School and Day Care by Default. *HEC Forum*, 31(4), pp.325–344. [online]. Available at: <https://doi.org/10.1007/s10730-019-09383-7> [Accessed 10 February 2024].
3. Kahneman, D., 2011. *Thinking, Fast and Slow*. Penguin UK. [online]. Available at: <http://books.google.ie/books?id=oV1tXT3HigoC&printsec=frontcover&dq=Kahneman,+Daniel.+Thinking,+fast+and+slow.+macmillan,+2011.&hl=&cd=1&source=gbs_api> [Accessed 10 February 2024].
4. Lycett, K., Miller, A., Knox, A., Dunn, S., Kerr, J. A., Sung, V. and Wake, M., 2017. 'Nudge' interventions for improving children's dietary behaviors in the home: A systematic review. *Obesity Medicine*, 7, pp.21–33. [online]. Available at: <https://doi.org/10.1016/j.obmed.2017.06.001> [Accessed 10 February 2024].
5. Parekh, H., 2022. *Nudge Theory: Literature, Effectiveness, Applications, Implications and Recommendations*. [online]. Available at: <https://doi.org/10.31219/osf.io/f86hv> [Accessed 10 February 2024].
6. Park, M.H. and Clemson, C., 2020. Using Nudge Theory in Early Childhood Classrooms. *Childhood Education*, 96(6), pp.22–31. [online]. Available at: <https://doi.org/10.1080/00094056.2020.1846375> [Accessed 10 February 2024].
7. Thaler, R.H. and Sunstein, C.R., 2008. *Nudge*. Yale University Press. [online]. Available at: <http://books.google.ie/books?id=dSJQn8egXvUC&printsec=frontcover&dq=Thaler,+R.,+%26+Sunstein,+C.+(2008).+Nudge:+Improving+decisions+about+health,+wealth+and+happiness.+In+Amsterdam+Law+Forum%3B+HeinOnline:+Online+(p.+89).&hl=&cd=1&source=gbs_api> [Accessed 10 February 2024].
8. Wilk, J., 1993. *The Art of the Nudge: Minimalist Intervention and the Science of Change.* Invited Address to the Strategic Planning Society, Privately Circulated.
9. Wolf, S. and Lichand, G., 2023. Nudging parents and teachers to improve learning and reduce child labor in Cote d'Ivoire. *Npj Science of Learning*, 8(1). [online]. Available at: <https://doi.org/10.1038/s41539-023-00180-z> [Accessed 10 February 2024].