

# **GEORGIAN MEDICAL NEWS**

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**ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ**

Медицинские новости Грузии  
საქართველოს სამედიცინო სიახლენი

## GEORGIAN MEDICAL NEWS

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**GMN: Georgian Medical News** is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

**GMN: Медицинские новости Грузии** - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

**GMN: Georgian Medical News** – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

### WEBSITE

[www.geomednews.com](http://www.geomednews.com)

## К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html) В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректур авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

**При нарушении указанных правил статьи не рассматриваются.**

## REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: [http://www.nlm.nih.gov/bsd/uniform\\_requirements.html](http://www.nlm.nih.gov/bsd/uniform_requirements.html)  
[http://www.icmje.org/urm\\_full.pdf](http://www.icmje.org/urm_full.pdf)

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned  
Requirements are not Assigned to be Reviewed.**

## ავტორთა საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალებების შედეგების ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

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## EFFECTS OF SOCIAL ESTRANGEMENT ON YOUNG PEOPLE'S MATURATION: A REVIEW OF THE RESEARCH

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### Abstract.

A major issue among adolescents in recent years has been social isolation, or the sensation cut off and alone from peers and society. The effects of social isolation on youngsters and adolescents are investigated with special attention paying to the possible negative effects on their physical and mental health. Multiple studies have shown a link between adversity in life domains and adolescent social isolation. Firstly, it can have a major effect on mental health, raising the probability of experiencing things like anxiety, sadness and even suicidal thoughts. Second, it prevents the development of vital social abilities, making it harder to make and keep close friends. In addition, social isolation is associated with worse academic performance, which in turn reduces the number of courses a student can take and the number of jobs they can have in the future. After looking over 520 papers, 15 were chosen for the systematic review. Four researches reported the implications on general health, while two investigations reported on ramifications affecting the Hypothalamic-pituitary-adrenal (HPA) axis area along with social and mental growth of children. In conclusion, social isolation affects youth development across a wide spectrum, including psychological well-being, interpersonal skills, and academic success. Children and adolescents who experience isolation are more likely to suffer from anxiety and sadness, according to the review's findings. Cortical levels rise and mental growth slows in socially isolated children. Children and adolescents should be monitored by health professionals during and after the COVID-19 pandemic to ensure that their mental and physical health needs are met.

**Key words.** Social isolation, children's mental health and adolescent's development.

### Introduction.

As an undesirable emotional state, loneliness develops when a person becomes aware of a discrepancy between their ideal and real social ties. Many people agree that isolation is harmful to a person's health, both emotionally and physiologically [1]. The correlation between isolation and depression has been the focus of most studies. Depression is increasing in incidence across the globe and the World Health Organization (WHO) lists it as the third biggest cause of illness. Major depressive disorder can appear at any time between adolescence and maturity, over 40% of people will have a diagnosis of depression before the age of 20, with the greatest prevalence happening in the second and third decades of life [2].

Studies using cross-sectional data shows that people with depression are much more probable to be isolated than the overall population. Data from long-term studies shows that isolation increases the probability to suffer from depression and improves depressive symptoms in those currently afflicted, but also reveals the reciprocal interaction of depression and isolation [3]. Essentially, this cyclical relationship suggests that lonely could increase the risk of depression and sadness can heighten the experience of feeling alone [4]. In further study, particularly with young people, is required to determine the complex processes behind this connection between depression and isolation. According to population-based studies, loneliness follows a U-shaped age-related pattern, with greater rates of isolation recorded among adolescents and the elderly [5]. It is important to point out that the majority of studies on the negative effects of isolation on health have focused on people in their golden years. Isolation varies between demographics and countries [6], making it difficult to generalize research on loneliness in older populations to younger people. Furthermore, there are age-related differences in the social context of isolation. Expected age-related differences in depression experience includes an increased irritation and difficulty in interacting with others throughout the adolescence. According to the few studies conducted with adolescents, isolated as a youngster can result in feeling lonely as an adult [7]. Studies have connected persistent isolation in children with friends to the development of depression in adolescence [8]. In addition, the discrimination associated with psychological disorders and the difficulty to communicate thoughts or sentiments are compounded by the isolation that young people experience when they request official or private treatment [9]. Depression is more common throughout adolescence and early maturity because of the added pressure of maintaining it together in social contexts [10]. Developing age-appropriate therapy requires understanding the underlying beginnings and effects of the disorder. Isolation, loneliness, social connection, a feeling of no identity and the absence of social capital are every aspect of the subjective experience of loneliness. This isn't the same as isolated, which suggests a need for time alone and can be unacceptable or socially isolated, which is an objective assessment of a shortage connections [11]. The modest association between isolation and social estrangement, both of which are associated with depression, has been established by quantitative study. Clinical genetic research has shown that loneliness-related genes have a role in depression among adolescents [12].



It's important to note that not every young people who are socially isolated are lonely and that adolescents who feel lonely might spend less time with others than their less lonely peers. The available data suggests that the sense of isolation varies with age [13]. Studies comparing the social media profiles of individuals of different ages have shown that even if adolescents have more friends and acquaintances, they nonetheless report lonely feeling and isolated twice as late middle-aged adults. People between the ages of 10 and 24 in a research sample from the English-speaking population defined lonely as a feeling of isolation, estrangement and dissatisfaction in one's interpersonal connections [14]. The possibility to improve depressive symptoms and outcomes through individualized and constructed therapies that target isolation exists as a result of growing in understanding of the reciprocal effect of depression and isolation among young people. Through a consolidation of qualitative studies, which addresses the young people's experiences with depression and isolation, this meta-synthesis aimed to shine light on the interrelated dynamics and pathways connecting these disorders [15]. The purpose of this research is to provide a comprehensive overview of the literature on social isolation and its connection with negative outcomes to highlight the importance of proactive surveillance and support in the context of the current COVID-19 epidemic.

### Methods.

The creation of this review article adhered to the “Preferred Reporting Elements for Systematic Reviews and Meta-Analysis (PRISMA)” list. The PICO technique, whose acronym stands for patient (children and adolescents), intervention (social isolation), comparison (normal social cohabitation), and outcome (child and adolescent development), was utilized to structure the process of gathering data. Initial publications that fulfilled with the pre-established PICO and qualified as observational studies were considered for inclusion in this comprehensive examination, regardless of the time restrictions. Research findings and sections in editorial, commentary, or review formats that exclusively concentrated on adults were disregarded. In addition, the bibliographic citations of the publications that were chosen for the extraction of data were examined.

### Inclusion:

A thorough search of Pubmed, sciELO, and LILACS produced 520 publications in total. After duplicates were eliminated, 453 articles were left for additional examination. The entire texts of 84 articles were then carefully evaluated to establish their eligibility. 15 articles were considered appropriate for inclusion after an extensive evaluation process. Ultimately, a qualitative analysis was carried out, and the total analysis had 14 articles. A strict selection of pertinent and relevant articles for the qualitative synthesis was made possible by this systematic methodology.

### Exclusion:

369 items were eliminated from the original sample of 520 articles during the selection process on the basis of a title evaluation. Following an in-depth examination of their whole texts, 69 articles were determined ineligible for inclusion in

the next eligibility phase due to their failure to satisfy the pre-established standards. After further examination, 1 more article was eliminated from the reference check. A targeted and criteria-aligned selection of publications for the investigation was made possible by this rigorous screening and exclusion procedure.

The research consists a total of 520 articles found in the first phase. After eliminating duplicate research and ensuring that the selection method followed the established, we were able to exclude out 369 articles. Fifteen of the remaining eighty-three papers that were subjected to a full-text examination were included in this review since they fulfilled the criteria established in advance. A more research that satisfied our inclusion criteria was found by a systematic review of the references in the selected papers, bringing the total number of included studies to 14. Figure 1 is a graphic representation of the article screening and inclusion process. The 14 chosen articles encompass a publication of timeframe spanning from 1990 to 2020. Among these studies, two adopted a retrospective cohort design. One of these investigations explored the effects of the corona virus pandemic on 252 individuals aged 9 to 18 years, while the other delved into the consequences of isolation during different pandemics, that encompassing 398 children and adolescents. There were three prospective cohort studies that followed individuals from birth and three began following them after an average of 15 years. In conclusion, there were six studies involving children and adolescents, four of which included children and two teenagers.

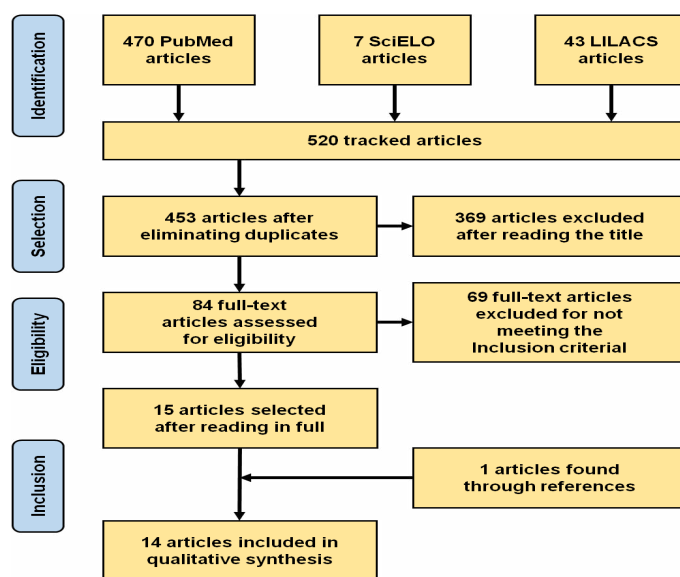


Figure 1. Research Process Flow.

### The Effects of Social Isolation on Mental Health.

This review delves into an analysis of several studies that investigate the mental health impacts of social isolation on children and adolescents, building upon the established definition of social isolation [16]. Throughout childhood and adolescence, social isolation can have a wide range of negative effects on a person's development and wellbeing, yet each topic explores these effects and their limits.

### **Impact of Isolation.**

To acquire this information, we conducted an online interviews with parents who were quarantined because of the COVID-19 outbreak. Researchers found that feelings of anxiety, stress and boredom were on the rise among the research participants. The minimal socioeconomic variety of the sample consisted of an individuals from immigrant households, was cited as a weakness [17].

### **Post-traumatic stress disorder (PTSD) and Isolation Experience.**

Information was gathered via interviews and PTSD checklists filled out by parents and guardians. It was shown that children who were isolated or quarantined as young children were more likely to develop PTSD symptoms as adults [18]. One disadvantage have been relying on parents' memories of their own early years.

### **Loneliness and Depression.**

Four inquiries were done at ages 7, 9, 11 and 15 to gather information about feelings of isolation and despair. Using isolation and social dissatisfaction, an isolation categorization was developed in the study. There was an association found between extreme feelings of isolation, sadness, discrimination, and suicide thoughts [19]. The long intervals between the four questions and the possibility for bias in self-reported replies were limitations of the research.

### **Loneliness and Depressive Symptoms.**

Over the possibilities of five years, families were asked to fill out an annual study. The research has topics including social isolation, depressive symptoms, and character flaws [20]. A questionnaire known as the isolation and aloneness scale for children and adolescents was used to determine levels of isolation. Research has shown that feeling alone is linked to the development of depression symptoms.

### **Anxiety and Depression Post-Isolation.**

Information was gathered by testing young people before and after they were quarantined for two weeks because of the COVID-19 pandemic. The Patient Health Questionnaire (PHQ-4) and the Positive and Negative Affect Schedule (PANAS) were among the questionnaires used. After being alone for two weeks, feelings of anxiety and despair increased [21]. The group's reduced differences were seen as a drawback, and it was composed almost of female undergrads. This examination emphasizes the severe physical impact of loneliness on adolescents and children, while drawing attention to the unique caveats and disclaimers included in each theme's results [22].

### **The Effects of Social Isolation on Long-Term Health.**

This review synthesizes the results of many researches, each of which sheds light on a distinct element of the health risks associated with social isolation [23]. These research varied data sources and definitions of social isolation provide some useful insights but also have some limits.

### **The General situation of health and prevalent problems.**

Multiple interviews were done at different ages along with physical, mental and laboratory examinations were

administered. The Rutter Child Scale was used to determine the extent of which a child experienced social isolation [24]. Depression, cardiovascular disease, and metabolic diseases were shown to have an increased risk in adults who had experienced unfavorable childhood experiences, such as social isolation. The study has a certain limitations and the most notable is its narrow emphasis on three negative situations (social isolation, unstable financial status, and abuse) rather than the whole spectrum of negative events a young person might experience [25].

### **General Fitness and Physical Condition.**

Children living in the outside and those residing in the center of society were separated by annual measurements of height, weight as well as respiratory and physical performance. Reduced physical activity because of social isolation was associated with higher levels of body fat and greater physical performance in young adults. However, there was not sufficient amount of information about the study's significance and certain differences between the children were not important [26].

### **Long-Term Effects on Health and Wellness.**

Physical testing, laboratory testing and the Rutter Child Scale questionnaire were used to monitor the progress of study participants at times ranging from 4 to 10 years. The research found that compared to their less isolated peers, socially isolated youngsters had a much higher probability of developing health issues as adults [27].

### **Symptoms of General Health and Diseases.**

Reviewers looked at the results from physical exams, blood testing and the Rutter Child Scale questionnaire designed to gauge social isolation over the course of many years [28]. A high CRP level in middle age was associated with later psychological alterations in socially isolated youngsters. This extensive review emphasizes the serious health repercussions of isolated from others while drawing attention to the heterogeneity of the research that has helped us to comprehend these consequences [29].

### **Hypothalamic-pituitary-adrenal (HPA) axis area.**

The effects of early life isolation on cognitive and social development, as well as the HPA axis, are the focus of this analysis [30]. The study provides a new insight into the ways in which children in foster care experience and who are affected by social isolation.

### **The Role of Institutions on Children's Cognitive and Social Growth.**

The collecting of data required the recovery of birth and prior medical records. The child's language abilities and attachment to their caregivers were assessed at 30, 42, 54 and 96 months of age [31]. Children who received placement in foster care were stigmatized because of their perceived isolation. The results showed that a child's cognitive and social development suffered when they were institutionalized at a young age. The large number of children who moved during the trial, affecting both the intervention and control groups, is a significant restriction [32].

### **Changes in Cortisol and Recurrent Behavior.**

Researchers observed youngsters at school interacting and playing on camera to gather information. It was determined that

each youngster was socially isolated because of unique patterns of conduct. Excess cortisol levels were shown to result from social isolation as a behavior pattern [33]. Children experiences were captured in the samples taken from one context, which was cited as a restriction.

### Deprivation and the Stress Hormone Cortisol.

Salivary cortisol samples were taken at home on days 1, 2, 3 in the morning, afternoon and night to compile the data. The pre-adoption care, developmental and social-emotional capacities of the youngster were assessed [34 -35]. Daytime cortisol levels were shown to be lower in socially isolated children compared to their non-isolated competitors of the same age. These disparities persisted for two years, indicating that HPA development can be affected by early social adversity. Some families refused to participate, which delayed the start of the research for those who had accepted to participate [36]. Difficulties in sample collection increased the time spent collecting data. This in-depth analysis focuses on how social isolation throughout childhood can have far-reaching negative repercussions, from a child's cognitive and social growth to their HPA axis's complex functioning. Understanding the effects of social isolation at different stages of development is highlighted by these results.

### Index loneliness of social isolation (ILSI).

Even if they remain isolated, those who live desolate are far less to have finished post-secondary education. When compared to the other groups, this one stands out since its members are less likely to have any formal education beyond high school. The cherished group, on the other hand, has an even distribution across the three educational levels, suggesting a less strong tendency. Figure 2 provides useful information on the prevalence of social isolation and loneliness among people of unstable levels of education. There are five groups of people shown in the table below, each corresponding to a certain education level, the numbers in each group that show how common that education level is for that group.

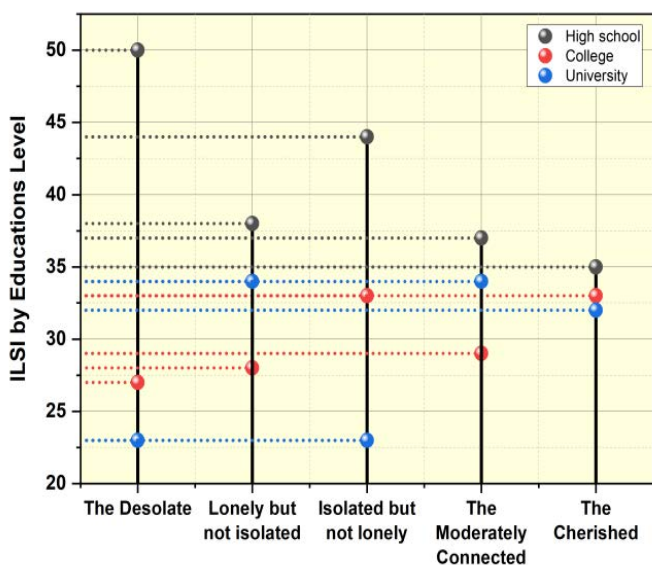


Figure 2. Comparison of ILSI by education level.

**The Desolate:** People that have a high school education are more prevalent in this category, suggesting that those with modest formal schooling are more inclined to feel lonely and alone. As scholastic attainment grows, the population progressively decreases.

**Lonely but not isolated:** There is a steady population of people who report feeling lonely while not socially isolated and this trend remains true across the educational levels. This data demonstrates that social isolation has nothing to do with ones degree of education.

**Isolated but not lonely:** People in the isolated but not lonely group are fairly dispersed across education levels, indicating that people with more education are not immune to social isolation.

**The Moderately Connected:** As a whole, this group maintains a steady number of friendships and social networks throughout the levels of higher education.

**The Cherished:** People from educational backgrounds are represented in the cherished category, indicating that it is possible to develop a feeling of belonging and community. It stresses the need of specialized therapies and social support networks for dealing with these mental health issues in people of educational levels.

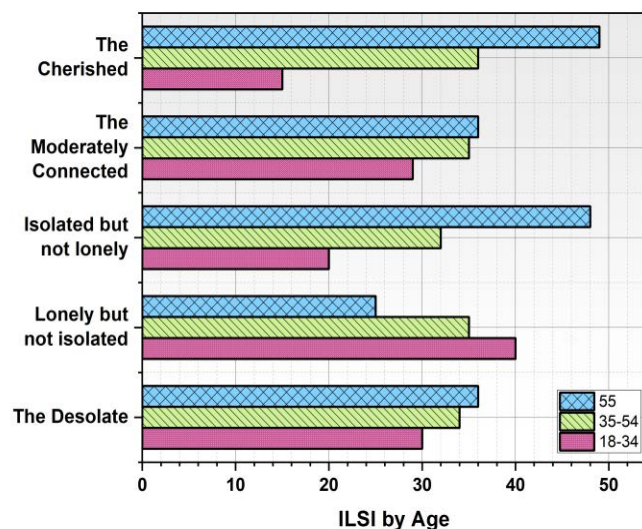


Figure 3. Comparison of ILSI by Age.

Understanding social isolation and loneliness from several generations is essential. Researchers have spent a lot of time thinking about the challenges faced by the elderly, especially seniors, who can feel isolated because of things like moving away from friends and family or unable to go out easily. Figure 3 shows a similar trend, with those over the age of 55 excessively represented in the subcategories. Despite their younger peers, the former generation cannot endure extreme isolation, but they have less opportunity for meaningful connections. As indicated before, there are a disproportionate number of young people feeling lonely but not isolated group, which can indicate that some of them are involved in meaningful activities but retain a desire for more meaningful relationships with others. The category, desolate is rather common among those aged 18–34, with 30 people reporting extreme feelings of loneliness and

isolation. The lonely but not isolated category with 40 people, suggests that a sizable percentage of people in this age bracket can experience loneliness while enjoying social connections. Twenty people fall into the isolated but not lonely category, indicating that some members of this group can prefer to be alone without suffering severe loneliness. The cherished existing more common among those aged 55 and above, showing a beneficial element of social participation in the latter stages of life.

Significant worries have been raised about the potential effects of the Coronavirus (COVID-19) epidemic on public health. All areas of one's life is physical, mental, and social that are included in these worries. Loneliness and a decline in social well-being have resulted from the effects of social isolation brought by lockdowns and other social distancing techniques. Threats to financial security have arisen as a result of economic difficulties, job losses and other factors. During these times, the world must work together to address these issues and perform steps to protect people's well-being, as displayed in Table 1.

**Table 1.** Numerical outcomes.

Concerns about the impact of Coronavirus on well-being	24 April to 3 May 2020	17 April to 27 April 2020
Feeling worried about the future	74	76
Feeling stressed	64	62
Feeling bored	50	54
Unable to exercise as normal	42	43
Feeling lonely	30	36
Making my mental health worse	27	31
Strain on my personal relationships	24	25
Spending too much time alone	24	29
Spending too much time with others	23	22
Finding working from home difficult	16	24
No one to talk to about my worries	12	10
Strain on my work relationships	7	9
Other	2	3

## Discussion.

Insights into the daily life of people of varying ages and educational backgrounds are provided by the extensive data is offered, which shed light on the complex links between age, education, and social isolation [37]. It emphasizes that social isolation and loneliness are not limited to certain demographics but could take on a variety of forms depending on a number of factors. The results highlight the critical need of developing individualized mental health therapies and social support networks to tackle the issues encountered by people of various ages and educational backgrounds [38]. The study delves into the impact of the COVID-19 pandemic on well-being, highlighting significant disruptions in physical, mental and social aspects. This underscores the need for a unified global response to safeguard the public's well-being during times of crises [39]. Concerning Covid-19 effect on well-being aren't compared or analyzed in relation to the ILSI or other demographic variables, such as age or level of education. The ILSI is a useful tool for understanding the scope of these problems [40]. These people are not very lonely, but also socially isolated. 10% of the population

falls into the category of lonely but not isolated, meaning that they experience a high level of loneliness yet having many close friends and acquaintances. The 15% of young people who are isolated but not lonely are representative of those who have few friends but don't feel lonely because of their lack of contact with others. 30 % of moderately connected people suggest an extensive social life. Finally, 22% of the population might be classified as the cherished, which refers to those who have several supportive relationships. These numbers provide insight into the many ways in which people feel loneliness and isolation which displays in Table 2 as a numerical result.

**Table 2.** Numerical outcomes of ILSI.

Social Well-being Assessment	Percentage (%)
The moderately connected	30
The Desolate	23
The cherished	22
Lonely but not isolated	10
Isolated but not lonely	15

A great deal of attention and research has been focused on the effects of social alienation on young people's development during the COVID-19 epidemic. The imposed isolation tactics such as lockdowns and social distancing have interfered with traditional social contacts that are essential to young people's growth stages [41]. Concerns have been expressed over the possible effects on mental, emotional, and social development of the lack of personal contact with others, instructors, and learning settings. A difficult world has been created for young people, where social events and graduations, once-essential rites of passage, are now problematic.

This could be explained by a number of things, including the removal of outside pressures (such as visitors, work travels, and private and professional appointments), which strengthens a sense of community and togetherness [42]. Additionally, since homeschooling eliminates the primary source of stress in their daily lives, kids who are struggling in school because of bullying or other pressures could embrace it and find it comforting.

This demographic's development of interpersonal skills and mental agility could be impacted by the lack of socializing chances and their transition to virtual connections. Long-term social alienation has also inspired studies into possible long-term impacts on resilience, mental health, and general well-being [43]. Understanding the complex consequences of social isolation on young people's development is essential for targeted treatments and informed policies, especially as countries struggle to balancing public health programs with addressing this generation's developmental requirements.

## Conclusion.

This research has examined the effects of social isolation on young people, particularly adolescents. The results, based on a thorough analysis of 520 studies, shed light on the many repercussions of loneliness. Primarily, the research highlights the significant impact that social isolation has on mental health, increasing the risk of feeling anxious, depressed and even suicidal thoughts among children and adolescents. Insufficient academic performance is directly related to social isolation,



as shown by the study; that limits the range of possible future educational and vocational outcomes for the socially isolated person. Four researches focused on general health implications, two studies investigated the influence on the HPA axis and the other studies investigated a social and mental development in children and they are included in the systematic review. It is clear that social isolation has a negative impact on young people's development across a wide range of domains, including mental health, interpersonal skills, and educational outcomes. The effects of social isolation were the primary focus of the research, rather than any possible protective factors or therapies. The negative impacts of social isolation on young people's growth should be studied in future treatments and the support systems are designed to reduce such effects that should be tested.

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