



Coping Strategies in Adolescent Siblings of Individuals with and Without Physical Disability

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Abstract

Raising a child with a physical disability can be challenging for families and may demand strong coping strategies to maintain stability in family relationships. According to the previous literature, sibling bond is a process that plays a vital role in an individual's growth and development since childhood. Thus, it is very important to understand the underlying linkage between siblings. This study aims to extrapolate the affinity amongst siblings and their way of coping when one individual is physically disabled, as these siblings may carry potential triggers of disturbed emotional state. This comparative study included 100 overall participants. 50 participants for each of the two groups without gender specification, selected by purposive sampling from different special schools in Karachi, Pakistan. The measures involved, Coping Strategy Indicator, Amirkhan (1994a) which is a self-reporting scale along with a demographic form. It was formulated that, the coping strategies of typically developing adolescent siblings of individuals without physical disability had no difference as compared to the coping strategies present in typically developing adolescent siblings of individuals with physical disability. This study serves as an implication for the psychologists and care givers who need to be well-adjusted to the needs of both disabled and non-disabled individuals, as the results depict an integral literature for different institutionalized settings where disabled individuals receive better support needed by them to establish further stronger bonds within their household especially with their siblings.

Keywords: Siblings, Typically developing, Coping, Social support, Physical disability, Adolescence, Institutionalized settings.

JEL Classification: I12, I14, I30, I31, P32.

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Contribution of this paper to the literature

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1. Introduction

The world's biggest survey of 2011 on disability identified that more than 500 million people are disabled around the world with partial disability or full disability. One cause of this high prevalence is that there is more physically disabled population in the Developing countries due to the lack of resources and awareness. As physical disability council (Kaduwanema, 2009) stated that physical disability can be identified as partial or full loss of person's body parts (for instance hands, legs etc.). Having any disability may lead to crucial factors that can cause depression, discrimination and anxiety (Bordieri, Drehmer, & Taricone, 1990). In addition to this, disability may serve as an underlying factor for developing bonds with other individuals as well, starting with siblings. For instance, people with disability might feel distressed about their immobility or functionality, which in return might affect their internal and external environment negatively (Fewell, 1986; Susman, 1994).

The influence of a disabled child is very complex on the family system. Previous researchers have actively tried to compare family bonds of physically disabled and non-disabled children, that had often lead to contradictory conclusions. For instance, many studies have found that having a child with any disability a member of the family, along with having another child as his/her sibling without any disability may have both the positive and negative effect within the household (Holaday, Phuphaibul, and Muensa (1999). Most researchers have found that siblings play a pivotal role in family, as they may fulfil their role of providing emotional support to other family members in different situations. Since, siblings spend longer span of life together in comparison to other relations so it becomes long-lasting and stronger with time (Cicirelli, 1995).

1.1. Siblings of Individuals with Physical Disability

Many studies have observed different domains of physical disability in sibling individuals and its effect on their quality of life (Ponce, 2007). Also, as a disabled individual he himself can be quite vulnerable to feelings of inadequacy and low self-worth. Due to which his siblings may face similar emotional instability overtime (Adler (1917). The bonds that individuals form with the disabled one may be based on self-esteem or sympathy while bonds between typically developing or siblings without any disability might have more safe and secure attachment along with stronger emotional support (Iriarte & Ibarrola-García, 2010). Also, siblings with any physical disability might gain more attention due to labels given to them like being handicapped, unfit, incomplete or broken and because of this, their other siblings might get induced with feelings of aggression towards their disabled sibling as their self-esteem might get targeted which can lead to disruption in sibling bonds or cause depression and anxiety in the long run (Burke, 2010; Rodrigue, Geffken, & Morgan, 1993). In another study, consisting of different views where their idea of family structure states that impact of individuals having disabilities have more influence on the family itself than only on one individual (Dunn, Slomkowski, & Beardsall, 1994).

1.2. Siblings of Individuals without Physical Disability

Sibling bonds serve as crucial antecedents for having emotional support and attachment needed to develop grown-up connections among individuals over their course of life (Davidoff, 2006; Lobato, 1990). Results from early research consistently reflects the idea that siblings play an important role in developing personality (Brim, 1958). Having constant conflicts and fights among siblings may indicate less warmth between them can lead to various psychological issues like depression, anxiety, isolation, as well antisocial behavior issues (Bank, Patterson, Reid, & Brody, 1996). Whereas, if siblings spend considerable time together and have common interests, experiences and feelings, then the quality of the linkages that they can develop with others can be better. Dunn (1998) suggests that when facing personal challenges or personal problems in the future, then individuals with stronger sibling connections can have better coping (Atkin & Tozer, 2014).

1.3. Coping Strategies

Lazarus and Folkman (1984) defined coping as, "reducing continuous stress behaviorally and psychologically by managing the resources". This way of coping may differ among individuals, and can further be classified into different coping strategies like problem focused coping, behavior focused coping and emotion focused coping (Lazarus & Folkman, 1984). Carver, Scheier, and Weintraub (1989) identified two major styles for coping, the first one is problem solving which focuses on problem by making rational choice among all the alternative choices available while the other one is emotion-focused coping style, where one deals with problems by focusing on internalizing the problem. They discussed another factor related to coping that was avoiding the situation and may cause denial to reduce the stress which could be either denying it psychologically or behaviorally. Individuals who apply emotion-focused coping style might get involved in drugs, drinking or an avoidant individual might withdraw from all activities to escape from problem (Holahan & Moos, 1987).

Now days, it is known that growing with any physically-disabled sibling or with a sibling having other abnormality may have both the negative and positive effects (Fisman, Wolf, Ellison, & Freeman, 2000; Rossiter & Sharpe, 2001). Nixon and Cummings (1999) identified that having a disabled sibling in the house will affect the individual's healthy coping negatively and inculcate stress in daily living. They might feel less secure and provoked, both at the same time which leads to aggression and may create annoyance towards their disabled sibling in different social settings. Many previous researches focused on siblings with abnormality have identified that these individuals are more vulnerable to take negative cues from their immediate environment and as a result they become prone to psychological distress (Davidoff, 2006; Lobato, 1990; Verté, Roeyers, & Buysse, 2003). Research studies have observed the relationship between a physically disabled sibling in family and siblings

without abnormalities being present with mixed findings, whereas, researchers stress that the outcomes of coping with a sibling having any disability is more severe and may contribute to low self-esteem (Opperman & Alant, 2003).

Most of the high school students shared their experiences mentioning that having a sibling with abnormality made them more stronger and compassionate as their experience has taught them about how to adjust with stressful situations (Caplan, 2011). Researchers found out that most children having disabled siblings or siblings with chronic diseases can handle stressful situations well. Cuskelly and Gunn (2006) on the other hand suggested that having a physically disabled sibling can be a risk factor, leading towards adjustment problems (Giallo, Gavidia-Payne, Minett, & Kapoor, 2012) for instance, due to low self-esteem they may experience adjustment and communication issues at school (Williams, 1997). A stronger relationship with siblings may have positive effect on individuals as it may provide deeper emotional support (Noller, 2005).

Communication with siblings have many positive effects for instance on language development or understanding the emotion and feelings of others. If there is no communication in early childhood phase then there is a high chance that individuals might communication problems ,behavior tantrum issues during adolescence (Brody, 2004). Siblings of individuals with disability can have low self-esteem and low confidence as they might play a role of a caretaker which can affect their psychological health (Mikami & Pfiffner, 2008).

2. Theoretical Framework

Based on Lazarus and Folkman's 'Stress Coping Theory' of 1984, 'Cognitive Assessment' of a stressor is made on certain condition and interpretation of those events that determine coping methods. It tells us that in overwhelming situations we use coping strategies to overcome stress. In this theory, it was suggested that stress management coping strategies may create a global coping approach, as a dominant approach to cope with life situations. There are two principal styles of coping: problem focused coping and emotional coping (Lazarus & Folkman, 1984).

A problem focused coping style include behaviors or approaches that solve problems with best solutions and not stress out and internalize problem. By using it, individuals can cognitively engage and solve problem with reasoning to reduce the stress. Whereas, emotion focused coping is more involved in internalizing the problem and focuses on emotion other than solving a problem. It is an emotional regulation strategy where individuals see or consider others' behaviors under good light and positively reframe the scenario to look for an alternative positive explanation while focusing on emotions. It can also lead to avoiding the situation by behavioral disengagement or by remaining in denial to avoid stressful events (Folkman, 2013; Lazarus & Folkman, 1984). There is no specific successful style in managing stress but problem- focused style is more preferable because researchers consider it more adaptive during stressful situations. The coping model along with stress serves as the theoretical framework of this research.

3. The Present Study

According to the literature summarized above, the present study hypothesized that 'There will be a significant difference in coping strategies of the typically developing adolescent siblings of individuals with and without physical disability'. The variable of Physical Disability is defined as any deformity or abnormality in the visible body make up, having occurred for more than 6 months. While the coping strategies of their siblings depended upon the given score on the provided test items.

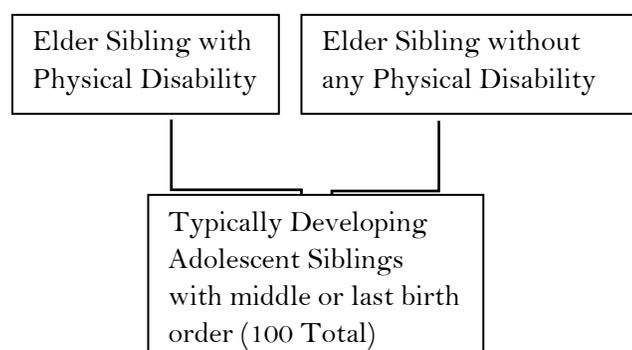
4. Method

4.1. Research Design

The comparative research design is utilized for the study. Structured self-report questionnaires were used to determine the coping strategies of typically developing adolescent siblings of individuals with and without physical disability. The study has a correlational aspect as it aimed at exploring the relationship between coping strategies of the siblings of both disabled and non-disabled individuals. For this research, purposive sampling was used to select participants.

4.2. Participants

As part of the inclusion criteria, the age group decided for this research was typically developing adolescent sibling participants. The between group design consisted of two independent groups, one group having the typically developing siblings of individuals having any physical disability (either brother or sister) with specific birth order that is middle born or last born while the independent group comprised of typically developing siblings of individuals without disability (either brother or sister) with specific birth order that is middle born or last born having no psychological or physical disability. Each independent group consisted of 50 participants falling in the age range of 10-19 years. The adolescent siblings of both the independent groups did not have any physical or psychological issue, hence referred as typically developing.



4.3. Measures

4.3.1. Demographic Form

The demographic form was given to collect information about gender, age, number of siblings, birth order and education, family structure and family background on which the study was based upon. It was important to inquire the age and birth order to qualify on the identified criteria of *CSI- Coping Strategy Indicator* (Amirkhan, 1994a).

CSI- the Coping Strategy Indicator is a 33-item, 3-point self-report rating scale intended to survey 3 fundamental methods of coping. According to the measure, participants select an upsetting situation from their lives and respond to the items based on it. The situation should not have happened more than 3 months before taking part in the study. At that point, participants while remembering that situation respond to 33 questions of the measure. These reactions show whether subjects cope by critical thinking, looking for social help, or maintaining a strategic distance from the occasion. The CSI is psychometrically superior to other coping questionnaires. Convergent validity has been demonstrated, both in terms of convergence with existing measures of coping, personality, and pathology, and in terms of non-co-variation with social desirability indices. Criterion validity is evidenced by CSI's ability to predict actual coping responses made in both laboratory simulations and real-world settings (Amirkhan, 1994a).

4.4. Procedure

The researchers started the study by contacting Mr. Khan for getting permission of using his scale CSI during this study. Letters of permission were acquired from the Director of Institute of Professional Psychology, Bahria University in order to conduct research outside the university. Institutes holding the facility of providing care to the children mentioned in the inclusion criteria were approached, these included Al Umeed Rehabilitation Association (AURA), Special Children School Karsaz and DEWA Academy.

The above-mentioned centers were visited by researchers and information was gathered about the disabled individuals and their siblings. A self-report questionnaire, along with informed consent (that needed to be signed by the parents) and demographic form was sent to the potential participants in school diary recommended by the school management. Parents were given instructions to complete and return the survey to the school. A parent teacher meeting was also scheduled with a request of bringing siblings along with them for this purpose. At the meeting, siblings were asked to fill out the questionnaires after their parents signed the consent forms. It was specified that their participation was completely voluntary and that their answers will remain confidential and anonymous. The average time taken by the participants to complete CSI scale was 10-15 minutes. The result obtained from the filled questionnaires was analyzed using the Statistical Packages for Social Science (SPSS, 20.0).

5. Results

The following research has been analyzed by using Statistical Packages for Social Sciences (SPSS 22.0). The demographics and their percentage of siblings of individuals with and without disability during adolescence have been shown in the Table 1 in terms of gender, family structure, and background and birth order. The total sample consisted of 100 participants including 50 siblings of disabled individuals and 50 siblings of non-disabled individuals.

Table-1. Descriptive statistics of ages of siblings of individuals with and without physical disability. N=100.

Age	N	M	SD	Min	Max
Soiwd	50	13.24	2.86	9	18
Soiwod	50	16.28	2.01	10	19

Note: Soiwd = siblings of individuals with physical disability, soiwod = siblings of individuals without physical disability.

As shown in Table 1 the mean age of the siblings of individuals with physical disability during adolescence has been found to be 13.24 years whereas the mean age of siblings of individuals without any physical disability is 16.28 years as shown in Table 1. Whereas, the Min age value for siblings of individuals with physical disability was 9 years and the max age was 18 years with standard deviation 2.86. The min age value for siblings of individuals without physical disability was 10 years and the max age value was 19 years with standard deviation 2.01.

Table-2. Descriptive statistics and Cronbach's alpha reliability of the sub scales of Coping Strategy Inventory (CSI).

(CSI)	α	M	SD	Min	max	Skew	Kurt
Problem solving	0.82	25.76	5.05	15	33	-0.15	-0.98
Seeking social support	0.83	22.52	11	11	33	0.04	-0.58
Avoidance	0.71	21.98	12	12	30	-0.45	0.60

Note: CSI= Coping Strategy Indicator.

Table 2 shows the Cronbach's alpha for the three sub scales of Coping Strategy Inventory (CSI). The table includes the mean, standard deviation, range, min and max value along with skewness and kurtosis.

Table-3. The t-test between siblings of individuals with and without physical disability for the coping strategy subscale of problem solving (N=100).

Variable	Groups	N	M	SD	SEM	df	p	t
Problem solving	Siblings of disabled individuals	50	25.16	5.3	1.06	48	0.40	-0.83
	Siblings of Non-disabled individuals	50	26.36	4.8	0.96			

Note: *p≤.05, **p≤.01

Table 3 - Shows the t-test analysis of subscale: problem solving for both the groups. There is no difference in the coping strategy of problem solving among the siblings of individuals with and without physical disability, as it is confirmed by the value; $p > .05$ Table 4.

Table-4. The t-test between siblings of individuals with and without physical disability for the coping strategy subscale of seeking social support. N=50.

Variable	Groups	N	M	SD	SEM	df	p	t
Seeking social support	Siblings of disabled individuals	50	22.68	5.46	1.09	48	0.83	0.20
	Siblings of non-disabled individuals	50	22.36	5.36	1.07			

Note: * $p \leq .05$, ** $p \leq .01$

Table 4 shows the t-test analysis of subscale: seeking social support. The results show there is no difference in the coping strategy of seeking social support between the siblings of individuals of with physical disability and without physical disability as is it confirmed by the value; $p > .05$.

Table-5. The t-test between siblings of individual with and without physical disability for the coping strategy subscale of seeking social support (N=100).

Variable	Groups	N	M	SD	SEM	df	p	t
Avoidance	Siblings of disabled individuals	50	21.80	4.98	0.99	48	0.78	-0.28
	Siblings of Non-disabled individuals	50	22.16	4.00	0.96			

Note: * $p \leq .05$, ** $p \leq .01$

Table 5 shows that t-test analysis of subscale: avoidance. The results suggest that there is no difference in the coping strategy of avoidance between the siblings of individuals with physical disability and without physical disability. This is also confirmed by the value; $p > .05$

6. Discussion

The present study investigated the coping strategies in the sample of typically developing adolescent siblings of the individuals with any physical disability in comparison to the typically developing adolescent siblings of individuals without any physical disability. The hypothesis of this study suggested that there will be a significant difference between the coping strategies of the two groups. However, the results of this study could not prove the hypothesis and found that there was no significant difference indicated in the coping strategies of problem solving $p > .05(.40)$, seeking social support $p > .05(.83)$ and avoidance $p > .05(.78)$.

The basis of the current study has been laid over the extensive work of Ahmad (2013). The main aim of the study was to find out about the role of locus of control, self-esteem and perceived social support in the psychological adjustment of adolescence with and without disabilities, whereas, this current study aimed at testing the difference in the coping strategies of the adolescent siblings of individuals with and without physical disability. The variable of coping strategy tested on siblings aimed at giving a new aspect to the field of Pakistani researches.

The present study was conducted in Pakistan, where the statistical analysis of the current study did not support the hypothesis, thus showing no difference of adopted coping strategies by the siblings of both the groups. Considering Pakistan, where disability is treated as a stigma and so the families having any disabled individuals in their house do not feel comfortable in sharing information about their personal life or even about their other typically developing children because they feel that this might be stressful and embarrassing for them. However, for this study, the researchers used Coping Strategy Indicator (CSI) to assess the coping strategies of 80 sibling participants of the physically disabled and 80 sibling participants of the non-physically disabled individuals by giving them questionnaires to fill, only 100 total sibling participants responded (62.5% response rate), after critical evaluation of the protocols in the light of the inclusion criteria. Hence, the data of only 100 protocols was analyzed using descriptive statistics. Frequency and percentages were also calculated for the demographic factors. For all the three sub-scales, mean, median and standard deviation was also recorded and compared with the normative data of CSI scale. The variables of demographics were analyzed and interpreted for the statistical significance in regards to the relationship of each of the subscales.

Previous studies also supported the results of this study, as they showed that there is no significant difference in the coping strategies of these two groups (Ponce, 2007). According to Argirakouli and Zafeiropoulou (2003) there was no difference found in the confidence or stress levels prevalent in the siblings of individuals with or without any disability. One of the inclusion criteria as discussed in chapter II (method) states that the siblings selected for this study either middle or last born were observed. It was found that the younger siblings of the physically disabled individuals were very concerned about their brother/sister during filling the research form, they somehow had attachment with their disabled sibling and also played a caregiver's role or an attachment figure. It is noted that according to John Bowlby's theory of attachment, older siblings are primary caregivers of their younger siblings during a typical relationship. This kind of secure bond yields positive self-concept while when the older sibling already has a need of dependency on their family particularly parents and siblings, this kind of relationship turns to be insecure, leading towards a conflict bond or disappointment (Whiteman, McHale, & Soli, 2011).

In Asian culture, mothers tend to be more protective for their physically disabled children and this parental influence can make the typically developing siblings of these individuals become more protective for them as well, this suggests that their role of being younger and dependent on their elder sibling might get reformed (Chang, 2007). Coping is an essential factor for dealing with stressful situation, where adaptive and maladaptive coping

strategies can change the situation and lead to those consequences that may be either devastating or satisfying at times. Sibling bonds tend to provide support to these individuals, especially during the period of adolescence where a lot of physical and mental changes are experienced by individuals (Scharf, Shulman, & Avigad-Spitz, 2005). Adolescents are volatile and vulnerable to environmental dynamics during this period of life, and would seek support and care from their family.

Since, reputed special needs schools of Karachi city were selected for this study as discussed in the later section of limitations, the researchers found it difficult to find the second born or last born as the typically developing sibling of the disabled. The first factor suggested that most of the families did not plan a baby after giving birth to their first disabled child. Second factor suggested that most of the families had two children, both being mostly disabled so even they could not fit into the inclusion criteria. The third factor was that the parents of the disabled individuals might have gotten immune to filling questionnaires, as final year students from different universities must have contacted them before for different thesis projects based on individuals having disabilities. This might have contributed to parent's non-serious attitude towards proactively responding to these protocols. These were some of the reasons that lead to a smaller sample size of this study. Another factor that contributed towards the less sample size of this study was the inclusion criteria, which focused mainly on the typically developing adolescent siblings of the physically disabled individuals having issues just with their limbs or body make up. Also, individuals who did not classify under any psychological condition as per their history records that is of having any Intellectual Deficits, Mental Retardation, Autism Spectrum Disorder or Attention Deficit Disorder. Street children/beggars having any physical disability were also ruled out to make sure that there no extraneous variables intervening the research process.

The results concluded no difference in the coping strategies among the two groups, this can be due to a lot of factors, for adolescents who have typically developing siblings would be free from a responsibility of taking care of their sibling, while the other group having a disabled sibling would have an added responsibility of being careful, vigilant, thoughtful and patient as they might face issues dealing with their disabled sibling along with facing issues in their normal life. The prevalence of issues in their life is not the main question but the coping and directing oneself away from those issues by providing solutions is the main challenge present (Kutner, 2016). Parents and siblings being the immediate caregivers provide this support, affirmation and assurance that helps build confidence and positive self-idea while making them adopt effective and timely coping possible. The results of this study analyzed the data collected from different institutes for individuals with special needs, and also from mainstream schools for individuals without any physical, psychological or sensory disability. The family of these individuals did have resources for providing education to their special needs and typically developing children, thus financial constraints did not impact the individual's growth. The siblings of typically developing individuals were seen to be more active and open when collecting data while the siblings of the disabled individuals were found to be shy. An analysis of this behavior may pertain to the need of sharing information related of their self and also of the experiences they have with their physically disabled siblings that might cause anxiety and nervousness in them.

In one of the previous studies it was found that, individuals belonging from a lower socio-economic background might lack in resources and basic amenities, due to which they might not be able to treat their disabled children and their other typically developing children equally. For future research work, it is suggested that the behaviors of families belonging from different socio-economic backgrounds should be compared (Fewell, 1986). The present study was conducted on individuals having a stable socio-economic status, which suggested that they belonged from either lower-upper class or upper-middle class families and were able to enroll their disabled children in a reputed school. This may be one the reasons that in the subscale of Seeking Social Support (CSI), they have an elevated value $p > .05(.835)$ as shown in Table 4, as compared to other subscales of problem solving and avoidance. Hence, it can be said that this is the first study conducted in Karachi City, Pakistan that explains the coping of typically developing adolescent siblings of the disabled and non-disabled individuals while having scant literature over sibling's coping strategies. Furthermore, these siblings may carry potential indicators of developing poor psychological health in the future, even if they do not currently have maladaptive coping. Due to this, they might face emotional exhaustion and burn out in the long run if their underlying issues are not addressed profoundly. Moreover, this study has also emphasized that if the facilities provided to the disabled individuals are improved more, and then there are elevated chances of an improved wellbeing and coping of individuals who may face any kind of emotional symptoms, especially those who have a disabled sibling living with them in the household.

7. Conclusion

This is a comparative study, conducted on the typically developing adolescent siblings of the physically disabled and non-disabled individuals. While working with this sample, differences in their coping strategies using the scale Coping Strategy Inventory (CSI) were studied. Also, there were contrasting views presented in the previously available literature. However, this study yields no difference in the coping strategies of the typically developing adolescent siblings of individuals with and without physical disability.

8. Limitations and Recommendation

This study was conducted on a sample that consisted primarily of secondary school and college going students, this may have had an effect on the results which have been discussed earlier. Furthermore, as the sample size of this study was ($N=100$) so this same research can be conducted on a larger sample size to determine more engaging factors pertaining to the study. Thus, future researchers can include or incorporate a wider range of age such as children, adults and senior citizens.

The study was conducted on a stable socio-economic background of families who were more supportive to their disabled children in terms of providing them with education, social and moral support as compared to other families belonging from lower socio-economic background. During this study, there was no set age gap between the disabled sibling and their typically developing siblings for both the groups; the chosen siblings were selected only on the basis of falling under the criteria of being in the age range of typically developing adolescents while having middle or last birth order.

9. Compliance with Ethical Standards

9.1. Ethical Approval

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and its later amendments or comparable ethical standards.

Disclosure of potential conflicts of interest:

The authors declare that they have no conflict of interest and that this manuscript has not been previously published and has not been submitted elsewhere.

Informed consent:

Informed consent was obtained from all the participants for being included in the study using a consent form which included all the required information about the study to be shared with the participants with the mention of any potential risks and associated steps to overcome them for assurance. For participants <18 years old, informed consent was obtained from parents/legal guardians and assent was obtained from the participants.

Animal Rights:

This article does not contain any studies with animal subjects performed by any of the authors.

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