

The Effect of Peer Influence on Risk-taking Behavior in Adolescents

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Abstract: Adolescents' safety has been widely discussed in recent years. If teens fail to develop good safety habits, teens may be harmed at a physical or even mental level. Among other things, the risk-taking behavior of adolescents endangers their safety to a certain extent. Interpersonal interactions are also indispensable in the social environment, especially when adolescents are not yet fully mature, and their peers may also have some influence on their behaviors. This study aimed to examine the relationship between peer influence and risk-taking behavior among adolescents. Peer influence may be accounted for a large portion of the causes of adolescents' behaviors. Based on some past relevant literature, this paper speculates on some potential factors, such as age, cognition, emotion, and gender. Because of some limitations in the existing research, such as the small sample size, some of the inferred conclusions in this paper should be taken with caution. Nevertheless, this paper provides a reference angle for the subsequent improvement of the research area, which can help develop effective prevention and intervention strategies for adolescents.

Keywords: peer influence, risk taking, adolescents

1. Introduction

Today, topics related to adolescents always attract the attention of the media as well as the public. The most prominent of these discussions are usually about factors that can affect the physical and mental health of adolescents, such as the theme of electronics, which has been widely mentioned in recent years, i.e., the benefits and drawbacks of giving adolescents (minors mainly) access to electronics. It is often thought to affect the mental health of adolescent human beings. At the same time, physically, adolescents may also engage in behaviors that are harmful to their bodies, and one of the causes of these behaviors could be the influence of their peers.

Therefore, this study wanted to find out whether peer influence has an impact on adolescent risk-taking behavior. This study focuses on adolescents, i.e., the population of the study is from the age of 12 years and above until they enter society [1]. Normally, adolescents in the broader sense of the word are between the ages of 12 and 18, but today many young people are entering society early due to a variety of practical reasons, such as family, educational resources, religion, so the researcher in this study do not believe that they are broadly representative of the adolescent population. Therefore, the term "adolescents" in this study will be more specific. Meanwhile, in this study, peer influence is defined as influences that cause adolescents to do something different from what they are used to in their daily life, which includes both positive and negative influences. For example, adolescents may

learn to lie because of peer influence. Risk-taking behavior, on the other hand, is defined as some behaviors that violate the rules set by the adolescents' guardians or by society, e.g., going home at night after the time set by their guardians.

According to previous research, since the adolescents' brain does not fully develop until at least age 25, it suggests that adolescents' judgment and decision-making are also limited until this age [1]. This means that the vast majority of adolescents do not have the means to make sound decisions based on their judgment, thus leading to several mistakes, some of which will affect their future. Moreover, adolescents' judgment has no chance to push the physiological limits in most cases, meaning that even though they are rational, they will make decisions that seem rational to them but are not rational by nature, for a variety of reasons. The views and behaviors of adolescents are strikingly similar to those of their companions, which is suggested as the Homophily effects. According to the theories, adolescents are more likely to make friends with someone who has similar behavioral proclivities and similar attitudes, which is the selection effect. Plus, over time, adolescents' behaviors and attitudes may become more and more similar to those of their friends, which is the socialization effect [2]. This means that adolescents can easily be influenced by their peers to the extent that they engage in negative behaviors, ranging from picking up undesirable behaviors, such as smoking, drinking, gambling or even taking drugs, to possibly engaging in behaviors that violate the law. At the same time, the vast majority of people adolescents come into contact within their daily lives are their peers (e.g., classmates at school, who may spend more time together each day than they do with mentally mature adults, such as their parents), and are therefore more susceptible to peer influence.

Based on the above theoretical results, adolescents may be able to understand the impact of peer influence and actively use its positive effects to help themselves, while parents and other guardians may be able to understand and then help prevent the negative effects of peer influence. For example, peer-supervised learning can improve adolescents' learning efficiency to a certain extent, and parents can provide adolescents with a suitable learning environment to prevent them from being influenced by irrelevant things. At the same time, this study will also look at other factors that may influence adolescents' risk-taking behaviors, such as gender, and will make comparisons with adults to facilitate a more accurate understanding.

2. Social Impact and Relevant Factors in Risk Taking

2.1. Approval Seeking from Peers and Risk Taking

Mostly, adolescents are considered to be influenced by their peers in social aspects. Peers can suggest advice to adolescents and sometimes the advice may change their minds, and may lead to some risky minds, then push them to make risky decisions. In the study by Anneke, researchers investigated the influence of peers on risky decision-making in adults and adolescents using a virtual social environment. There were 68 participants, including both adolescents and adults. They were divided into four groups, each group with different conditions. Each group would do the task 16 times, six times the high risk, six times the medium risk, and four times the low risk. The first group's condition was to gamble in private, the second group was to gamble under the observation of their virtual peers, and the third group was to gamble under the suggestion of their virtual peers to choose the risky gambling option, which was defined as the risky choice, and the fourth group was to gamble under the suggestion of their virtual peers to choose the less risky gambling option, which was defined as the safe choice. They were all asked to complete some probabilistic decision-making tasks, namely gambling [3]. The results of the study indicated that adolescents may make riskier decisions on bets than adults under the condition of being observed only by their peers and that adolescents tended to go against the safe choice. While there were no behavioral differences between adults and adolescents in the private gambling option, it can be inferred that peer observation may encourage adults to make

safe decisions while permitting adolescents to make riskier ones, suggesting that the presence of peers increases adolescents' propensity for risk-taking.

Also, because adolescents are primarily exposed to their same-age peers, the peer influence situations need to be focused on the same-age peers. In general, the same-age peer influence factor is very outstanding. In the study by Barbara, the researchers investigated the impact of various peer influences on the judgments made by teenagers. There were 114 participants taking part in the research, both adults and adolescents. Participants were required to make decisions under three different conditions: the first condition was no other information to guide them, the second condition was the participants had information from the decisions of fictitious peers (which were same-age peers), and the third condition was the participants had information from the decisions of the computer. While participants made decisions, the levels of risk and ambiguity were systematically varied and made a decision between riskier or safer options [4]. The results of the study indicate that adolescents will follow the choices of their peers, whether their choices are risky choices or safe choices. Even though there are computer cues in the experiment, adolescents are more likely to trust the choices of their peers. This shows that the influence of same-age peers is very powerful. At the same time, late adolescents followed less than early adolescents, meaning they might have more of their judgments.

At the same time, because of the extreme nature of risk-taking behavior, i.e., the tendency for it to be either risky or safe, a special task was created, in which one is required to provide progressive risk-taking behavior. In the study by Osmont et al., the researchers investigated the influence of peers' prior risky or cautious decisions on teenagers' risk-taking, which depended on the level of risk information. The participants who were all early adolescents were instructed to complete the special task. Some conditions included informed and uninformed situations, and in each situation, there were three influence situations, including no influence, cautious influence, and risk influence. The social influence (divided into cautious and hazardous situations) and risk information (i.e., informed vs. uninformed) were controlled, and the researchers collected the task performance data [5]. The results of the study indicate that in some medium-risk or low-risk situations, cautious peer choices reduce adolescents' risk-taking behavior, but at the same time, in low-risk situations, risky peer choices increase adolescents' risk-taking behavior. This means that adolescents' behavior is influenced by their peers no matter what the level of risk is, and therefore peer choices are important. At the same time, peers' prior choices influence adolescents' uninformed decisions, but not their informed decisions, thus it is shown that adolescents are not influenced by their peers under certain circumstances.

Meanwhile, the previous studies could only suggest that adolescents may be influenced by their peers, but they lost some conditions which may also affect the behavior of adolescents. In a previous study, the researchers examined how peer observation influences adolescents' willingness to take risks when the data required to make an informed choice is made explicit. Participants were asked to make decisions in situations where the reward and loss outcome probabilities were told by the researchers in a probabilistic gambling task. Adolescent participants either worked alone or worked with peers who only watched them in a nearby room [6]. The study's findings show that participants who believed a peer was watching them made decisions with higher probabilities of losing money more frequently than those who completed the task independently. This suggests that in some circumstances, even when teenagers are given thorough information about the likelihood of both favorable and unfavorable outcomes, the presence of peers can still encourage increased risk-taking. Additionally, this discovery can expand people's knowledge of how peers influence young people's judgment.

2.2. Cognitive and Emotional Factors Related to Risk Taking

Cognitive and emotional aspects are a couple of other factors that influence risk-taking behavior. Adolescents' incomplete brain development means that they may have cognitive deficiencies, which may therefore lead to some risk-taking behaviors. In the study by Joseph, researchers evaluated how peer engagement influences teenagers' dangerous actions and how peer influence affects their complex judgments. The study used the Columbia Card Task (CCT). CCT required participants to make selections in three situations: the first situation was the participants doing the task alone, the second situation was the participants doing the task while a friend was watching them, and the last situation was that the participants doing the task while there is a friend nearby but that friend does not do anything. CCT includes a risky choice problem, and there is no circumstance in which a peer who is not a buddy is present. The participants were instructed to make decisions that depended on consideration and emotion [7]. The results of the study indicate that only the youngest participants in the cold CCT, where decisions had to be made based on counting or in-depth thought, and middle-late adolescents in the hot CCT, where choices had to be made based on intuition or ideas, experienced the risk-increasing peer effect. These results imply that adolescents' cognitive processes—their thoughts—have a substantial impact on them.

Moreover, because teenagers' brains become more mature over time, it means that early teens will have different perceptions than late teens, and this can bring about emotional differences. In the study by Miriam, researchers looked into whether feedback from liked or disliked peers affects teenagers' cognitive control differently. They gave both early adolescents and late adolescents tailored incentive tasks, to see the difference between ages. The results of the study indicate that task performance improved significantly with age, but with liked peers all the adolescents react slower [8]. Contrary to expectations, even with different perceptions, choosing peers that are more in line with self-preferences in the same situation can have the same impact.

Not only that, but completion with peers, also known as the outcome, may also be a factor influencing adolescents' risk-taking behavior. For example, if the probability of success in gambling with peers is high every time, then adolescents may persist in this choice. In the study by Jason, researchers investigated how peers affect behaviors by using the Iowa Gambling Task (IGT), a game that evaluates risk-reward decision-making. IGT can also provide the ability of adolescents to learn with both positive and negative results. 101 late-adolescent male participants were randomly assigned to play the IGT alone or in front of peers for the study. The findings revealed that late adolescents who had testing with observers engaged in more exploratory behavior picked up information more quickly from both good and negative outcomes, and outperformed those who underwent testing alone [9]. Similarly, it can be concluded from this study that completion does not affect the behavior of adolescents, who are perhaps more influenced to adopt risky behaviors because of their focus on peer companionship.

3. The Role of Gender in Risk Taking

Gender has always been one of the most prominent factors influencing various behaviors. Because men and women are physiologically different, the extent to which men are influenced by their peers and engage in risk-taking behavior differs somewhat from that of women. In the study by Ivy, researchers based on the models of social neurodevelopmental imbalance to study the impact of gender as an individual variable in risk-taking behaviors. The models suggest that peers may increase the risk-taking behaviors of adolescents, and males may be more affected than females. The researchers used some risky decision-making tasks and had two groups: One was the group in which all the participants complete the task by themselves, and the other was the group that participants can communicate with other participants. A gender-by-peer present moderation effect was evident in the

results. Males engage in far more risk-taking behavior with male peers than females do with female peers [10]. It is clear that individual variables (such as gender) can influence the social environment (i.e., peer presence).

4. Conclusion

In summary, peers do have some effects on risk-taking behaviors in adolescents, usually increasing their risk-taking behavior. Peers can lead adolescents to engage in more risk-taking behaviors, even when adolescents are aware of the options of more rational judgments and certain risks. However, in some specific cases, adolescents are less affected by peer influence. At the same time, several other factors, such as perceptions of peers, emotions, or the gender of peers can also influence adolescents' risk-taking behavior. Even though there are some differences between early adolescents and late adolescents, under certain circumstances (e.g., having a preference for peers) there are similar patterns in risk-taking behaviors.

Regarding the limitations, firstly, this study is based on past literature conducted in Western cultures mainly, so the conclusions of this study cannot apply to all cultures. Secondly, this study only deduced the relevant factors based on past literature and there are many more others to be considered. Thirdly, previous studies mainly utilized the cross-sectional approach without also using tracking, making the findings less robust. Finally, although this study has a broad definition of risk-taking behavior, the examples discussed mainly manipulated risk-taking behavior into gambling related behavior, making the results less generalizable. To better study the relationship between adolescent risk-taking behavior and peers, experiments using the factors postulated in this study may yield more meaningful results.

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