Do loneliness, perceived stress, and communication skill with peers predict social problem-solving in freshmen during COVID-19 pandemic?

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Abstract
Freshmen, as adolescents, face various problems related to physical, emotional, social changes and dealing with a life transition phase as they are entering college. Along with the pandemic conditions and the enactment of physical distancing and staying at home policies, several studies have found that distancing increases anxiety and stress in college students. These changes will provoke the emergence of several problems and require adequate problem-solving skills from freshmen so that they can still function optimally. This study aimed to examine the influence of loneliness, perceived stress, communication skills with peers on social problem-solving in freshmen during pandemics. Participants were 702 freshmen from University X and domiciled in the Jakarta Greater Area and several other cities. The data was collected through an online questionnaire and were analyzed using multiple regression. The hypothesis is that loneliness, perceived stress, and communication skills with peers influence social problem-solving in freshmen. The results show that loneliness, perceived stress, communication skills with peers significantly influence social problem-solving in freshmen. Partially, perceived stress and communication skills with peers have significant influences on social problem-solving, but loneliness has no significant influence on social problem-solving in freshmen.

Keywords: social problem-solving, loneliness, communication skill, perceived stress, freshmen

Abstrak
Mahasiswa tingkat satu, sebagai remaja, menghadapi berbagai masalah yang berkaitan dengan perubahan fisik, emosional, sosial dan menghadapi fase transisi dalam kehidupan saat mereka memasuki perguruan tinggi. Seiring dengan kondisi pandemi dan pemberlakuan kebijakan "menjaga jarak fisik" dan "di rumah saja", beberapa penelitian menemukan bahwa menjaga jarak meningkatkan kecemasan dan stres pada mahasiswa. Perubahan-perubahan ini akan memancing munculnya beberapa masalah dan membutuhkan kemampuan memecahkan masalah yang memadai dari mahasiswa agar mereka tetap dapat menjalankan fungsinya secara optimal. Tujuan dari penelitian ini adalah untuk menguji pengaruh kesepian, stres yang dirasakan, keterampilan komunikasi dengan teman sebaya terhadap pemecahan masalah pada mahasiswa tingkat satu selama pandemi. Peserta adalah 702 mahasiswa tingkat satu dari Universitas X dan berdomisili di Jabodetabek dan beberapa kota lainnya. Data dikumpulkan melalui kuesioner secara daring dan dianalisis menggunakan regresi berganda. Hipotesisnya adalah bahwa kesepian, stres, dan keterampilan komunikasi dengan teman sebaya memengaruhi pemecahan masalah mahasiswa tingkat satu. Hasil penelitian menunjukkan bahwa kesepian, stres, keterampilan komunikasi dengan teman sebaya sangat signifikan memengaruhi pemecahan masalah. Secara parsial, stres dan keterampilan komunikasi dengan teman sebaya memiliki pengaruh yang signifikan terhadap pemecahan masalah, tetapi kesepian tidak memiliki pengaruh yang signifikan terhadap pemecahan masalah.

Kata kunci: pemecahan masalah, kesepian, keterampilan komunikasi dengan teman sebaya, stres, mahasiswa tingkat satu

Introduction

Humans are social creatures. Social networking with friends and family will support healthy behaviors, otherwise, social isolation will have consequences on physical and mental health (Leigh-Hunt et al., 2017). Currently, due to the COVID-19 pandemic, the government is implementing social distancing and consequently limited direct social interaction. Research has found that people of all ages feel lonely during physical distancing, particularly evident in adolescents (Laursen & Hartl, 2013; Lisitsa et al., 2020). Elmer et al. (2020) explained that physical distancing torments adolescents because attachments to friends, acquaintances, and romantic partners are important for their healthy development and well-being. In line with this fact, there has been an increased use of social media (Lisitsa et al., 2020) as a solution in communicating, and spending time with online activities (Nabity-Grover, Cheung, & Thatcher, 2020), getting support from others (Anderson & Jiang, 2018), reducing anxiety (Wiederhold, 2020), and as the main source to obtain information about the pandemic condition (Andayani, 2020; Ölcer, Yilmaz-Aslan, & Brzoska, 2020; Wiederhold, 2020).

Pandemic also impacts the learning process, which is carried out online from home, and no activities are allowed at schools or colleges for a while. This condition ended up evoking psychological problems in students. Livana, Mubin, and Basthomi (2020) found that some of the biggest causes of stress during physical and social distancing in many students from several provinces in Indonesia were assignments, feeling bored at home, bored with online learning, not being able to meet loved ones, anxiety, and depression (Hasanah, Ludiana, Immawati, & Livana, 2020; Sundarasen et al., 2020). For freshmen, apart from issues with social distancing matters, entering college is also a crucial matter that can emerge problems due to changes as one of the major transitions in their life (Abdollahi et al., 2018; Bruffaerts et al., 2018). The common cause of stress on freshmen, namely demands good academic performance, lack of sleep due to work assignments, poor personal relationships with new friends, and lack of skills in dealing with problems (Garett, Liu & Young, 2017). Several facts found in freshmen namely experienced moderate stress (Garett, et al., 2017), have poor health and academic perfo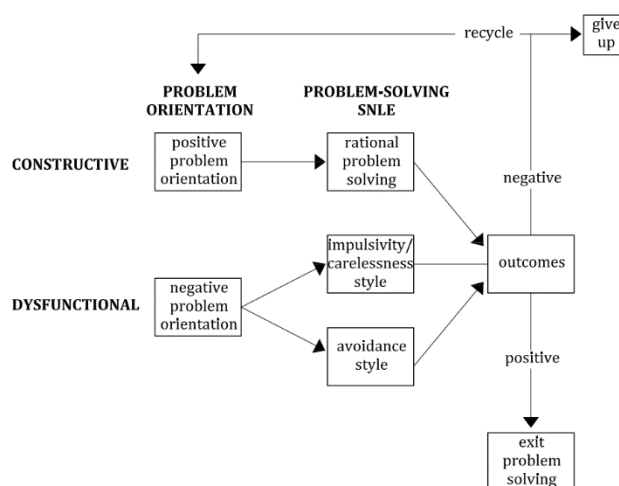rmance, increased levels of depression, alcohol, and illegal drug use, low self-esteem, and suicidal ideation (Chen, Kang, & Lin, 2017; Iorga, Dondas & Zugun-Eloae, 2018; Leigh-Hunt et al., 2017; Moore, Burgard, Larson, & Ferm, 2014). This condition is further complicated by the physical and social distancing which limited face-to-face contact with peers (Andayani, 2020; Elmer et al., 2020).

In dealing with various changes and problems, freshmen are required to have the problem-solving ability. Problem-solving is defined as the self-directed cognitive-behavioral process to identify or discover effective solutions for specific problems encountered in everyday living, which is referred to social problem solving (D'Zurilla, Nezu, & Maydeu-Olivares, 2004). Social problem solving is considered a modality that can help reduce depression, suicide, as well as problems related to mental and physical health, and anxiety (Ranjbar, Bayani & Bayani, 2013). Successful problem solving depends on two interrelated processes, namely the capacity to envision the enabling conditions for moving forward in solving the problem, and the capacity to selectively implement the most effective strategy, a process known as controlled processing (D'Zurilla & Goldfried, 1971).

D'Zurilla et al. (2004) also explain the schematic representation of the social problem-solving process based on the five dimensions model. The problem-solving process can be described by two separate processes, namely problem orientation, and problem-solving style. Constructive problem solving is a process in which a positive problem orientation facilitates rational problem solving, and in turn, produces positive outcomes. Dysfunctional problem solving is a process in which a negative problem orientation leads directly to an impulsive/reckless style or an avoidance style, both of which tend to produce negative results. This model also predicts that individuals with good problem-solving will have high scores in the positive problem orientation of rational problem-solving and predicted negative scores of problem orientation in reckless-impulsive style and avoidance style. When faced with negative outcomes, individuals who have good problem-solving will persist and repeat the problem-solving process to find better solutions. On the other hand, people who have poor problem solving will give up and do nothing and don't even try to ask other people for help to solve the problem. Thus, social problem solving is conceived as a conscious, rational, effortful, and purposeful activity.

Figure 1.
Schematic representation of the social problem-solving process of D'Zurilla (2004).

According to Rubinstein, Shaver, and Peplau (1979), lonely people have subjective thought processes and loneliness is something that is in one's mind. NYU survey (in Rubinstein et al., 1979) on lonely people found that feelings related to loneliness namely desperation, impatient boredom, self-deprecation, and depression. Lonely people also had lower self-esteem than non-lonely people (Rubinstein et al., 1979). These characteristics are contrary to what is needed in social problem-solving. There is a metacognitive process that involves relatively stable cognitive-emotional schemas that reflect general beliefs, appraisals, feelings about problems in living, and problem-solving abilities. This process serves an important motivational function in social problem solving (D'Zurilla, et al., 2004). Lonely people seem to have difficulty in this process because they are less rational, make less effort, which will lead to poor social problem-solving.

People deal with stress in their everyday living. The same stress condition can lead to different perceptions for everyone, which affects the level of judgment and the ability to solve problems (Abdollahi et al., 2018). When a stressor is considered as something useful, people will be motivated to do proactive problem solving (Crum, Salovey, & Achor, 2013). Otherwise, if a stressor is considered as something that weakens or threatens, someone will be in a state of high stress and become less creative in dealing with problems (Tan et al., 2019). This explains how perceived stress can affect problem-solving in freshmen.

In solving problems dan finding solutions, freshmen can get resources that help them solve problems from other people like support from family, friends, teachers, or other sources like books, the internet, and so on. Social networking

is an important matter in seeking support, and to build it, communication skills especially with peers, are needed. Collier (2017) stated that peers can influence one's success in college. When people are of the same age and have problems, they can support and appreciate each other, allow sharing experiences, and build reciprocal relationships (Repper & Carter, 2011). With good communication skills, freshmen capable to negotiate with peers in many ways, get involved in workgroups, provide self-disclosure, build social networking both online and offline, and respond to social relations (Iksan, Zakaria, Meerah, Osman, Lian, Mahmud, & Krish, 2012). Thus, good communication skills with peers enable freshmen to have good problem solving and finding adequate solutions.

In college life, social problem-solving has a very important role for freshmen to support their success in dealing with problems. Previous research on social problem-solving has been associated with clinically problematic behaviors such as suicidal ideation (Sharaf, Lachine, & Thompson, 2018; Zhang, Wu, & Slesnick, 2021), or in adolescents who are far from an ideal situation as in prison or homeless (Hein et al., 2020; Zhang, Wu, & Slesnick, 2021). Meanwhile, this research focuses on social psychology in an educational setting that involves students and the use of technology in a positive context. Several studies used students in the context of online learning and involve problem-solving focusing on learning objectives, and not on social relations such as social problem-solving (Wu & Nian, 2021), or placing social problem-solving as a predictor of other problems (Gunaydin, 2021), not as a problem faced by students.

Several previous studies on social problem-solving in Indonesia have involved college

students as participants (Putri, Rahardjo, Qomariyah, Rini, & Pranandari, 2021; Setiawan, 2020), or high school and elementary school students (Utaminingsih, 2019; Widodo & Darmawan, 2019). However, there are some fundamental differences from these studies. Previous findings related to social problem-solving on freshmen in Indonesia emphasize more on positive antecedents where emotional stability, secure attachment, communication skills with family, and self-esteem affect social problem-solving (Putri et al., 2021). Other findings reveal the consequences of social problem-solving (Utaminingsih, 2019), or even targeting efforts to improve or learn social problem-solving, either independently or inserted in certain courses to increase students' social sensitivity (Setiawan, 2020; Widodo & Darmawan, 2019). Apart from that, only the research of Putri et al. (2021) who researched social problem-solving in a pandemic with some positive antecedents, while other research did not.

The research aims to empirically measure the factors that can influence social problem-solving on freshmen, namely loneliness, perceived stress, and communication skills with peers. Therefore, the hypothesis in this study is that loneliness, perceived stress, and communication skills with peers influence social problem-solving in freshmen.

Method

Participants

A total of 702 students were involved in this research. There are 446 students (63.53%) female students and 256 people (36.46%) are male students. The mean age of the participants was 18.29 years (SD = 0.88). Participants were freshmen from various faculty origins who were recruited online from several campus locations spread across several cities and lived in Jakarta and several other cities.

Design and Procedures

This research is a quantitative study with a cross-sectional non-experimental design. The way participants participate in this research is by using an online questionnaire containing informed consent, personal identity, and questionnaires. In the introductory section, this questionnaire described the participatory inclusion criteria, as well as a statement regarding the confidentiality of research data. In this study, participants were given the freedom to decide whether to participate in this study or not by giving their consent statement. Participants did this after reading the description of the study.

Measuring Instruments

The instruments in this study are given in Bahasa, which has done the content validity to 5 experts judgment, expertise in clinical and social psychology. The researchers also conducted an item wording process for 5 participants and all items were understood by all participants.

Social problem-solving. In this research, social problem-solving is measured using a scale from Sorsdahl, Stein, and Myers (2015). This scale has 23 items with the example item "Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish". The scale has response categories ranging from Not Describing Me at All to Highly Describing Me, and the score ranges from 1-5. There were 18 good items and 5 poor items with reliability $\alpha = 0.823$.

Loneliness. In this research, loneliness is measured using the UCLA Loneliness Scale Short Version (ULS-8), taken from Xu, Qiu, Hahne, Zhao, and Hu 2018). This scale contains 8 items with the example item being "I feel left out". The scale has response categories ranging from Never to Always, and the score ranges from 1-4. There were 5 good items and 3 poor items with reliability $\alpha = 0.793$.

Perceived stress. In this research, perceived stress is measured using the Stress Scale from Purnami, Suwondo, Sawitri, Sumarni, Hadisaputro, and Lazuardi (2019). This scale has 10 items with an example of the item "In the past month, how often have you felt nervous and depressed?". This scale has response categories ranging from Very Often to Never with a score range of 1-5. There were 8 good items and 2 poor items with reliability $\alpha = 0.802$.

Communication skills with peers. In this research, communication skills with peers are measured using a scale from Puggina and da Silva (2014). This scale has 17 items with an example of the item "I express myself well verbally". This scale has response categories ranging from Almost Never to Nearly Always with a score range of 1-5. There were 15 good items and 2 poor items with reliability $\alpha = 0.850$.

Analytical Technique

The data analysis technique used in this study is multiple regression. The technique is used because we want to examine the contribution of loneliness, communication with peers, and perceived stress on social problem-solving.

Result

Assumption of Linear Relationships is used for linear regression because it states that the relationship between independent and dependent variables must be linear (Schreiber-Gregory & Bader, 2018). The linearity test is seen from the significance value of 0.000 (p <0.05), which means that there is a linear relationship between perceived stress, communication skills with peers and loneliness variables on social problem-solving. In addition, a multicollinearity test was also carried out. Multicollinearity appears when two or more independent variables in the regression model are correlated (Daoud, 2017). The multicollinearity test is seen from the coefficient of Variance Inflation Factor (VIF) of perceived stress, communication skills with peers and loneliness is 1.322, 1.117 and 1.404 (VIF <10.00) while the coefficient value of tolerance level of perceived stress, communication skills with peers and loneliness is 0.756, 0.895 and 0.712 (tolerance level > 0.10). This shows that perceived stress, communication skills with peers and loneliness are not the same variable.

In Table 1, it appears that social problem-solving is significantly correlated with loneliness, perceived stress, and communication skills with peers. The strongest correlation was obtained from perceived stress, followed by communication skills with peers and loneliness. The relationship between perceived stress and social problem solving is indicated by R -0.449 (p<0.01). This shows that the lower the individual's perceived stress, the better social problem-solving. Communication skills with peers also have a very significant relationship. This is indicated by the R 0.338 (p<0.01), which means that the better the individual's ability to communicate with his friends, the better his social problem-solving will be. Furthermore, it is also known that loneliness has a negative relationship with social problem-solving, by R -0.278 (p<0.01). This means that the lower the loneliness felt by someone, the better the social problem-solving.

Table 1.
Mean, SD, and Correlations of All Variables

	1	2	3	4
Social problem-solving				
Loneliness	-0.278**			
Communication skills – peers	0.338**	-0.317**		
Perceived stress	-0.449**	0.490**	-0.211**	
Mean	65.01	11.49	51.87	29.48
SD	7.13	3.54	8.38	6.24

Note: 1 = social problem-solving, 2 = loneliness, 3 = communication skills – peer, 4 = perceived stress
*= $p < .05$, **= $p < .01$

Table 2.
The Influence of All Independent Variables on Social Problem-Solving

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.513a	.263	.260	6.139

a. Predictors: (Constant), stress, comskillfriend, loneliness

Table 3.
Multiple Regression Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	67.185	2.154		31.191	.000
	Loneliness	-.012	.078	-.006	-.151	.880
	Communication skills – peers	.216	.029	.253	7.381	.000
	Perceived stress	-.449	.043	-.392	-10.502	.000

a. Dependent Variable: sps

The findings of this research, based on table 2 and table 3, show that the joint influence of loneliness, communication skills with peers, and perceived stress affect social problem-solving in

students by R2 = 0.263 with F = 83,188 (p < .01). This shows that loneliness, communication skills with peers, and perceived stress contribute to social problem solving by 26.3%. The equation formula for the multiple regression analysis proposed in this study is:

Y = Constant + BX1 + BX2 + BX3

If the results of multiple regression analysis are applied to the equation, the formula will be obtained:

Y = 67,185 + (-0,012) L + 0,216CSP + (-0,449) PS

From this equation, it is known that the regression coefficient for loneliness is negative, which means that if loneliness increases, social problem solving will decrease, and vice versa. An increase of 1 point in loneliness will reduce social problem solving by 0.012, conversely, a decrease of 1 point in loneliness will increase social problem-solving by 0.012. The regression coefficient for communication skills with colleagues is positive, meaning that if communication skills increase, social problem solving will also increase, and vice versa. An increase of 1 point in communication skills with peers will increase social problem solving by 0.216, conversely, a decrease of 1 point in communication skills with peers will reduce social problem solving by 0.216. Furthermore, the regression coefficient for perceived stress is negative, which means that if perceived stress increases, social problem solving will decrease, and vice versa. An increase of 1 point in stress perception will decrease social problem solving by 0.449, conversely, a decrease of 1 point in stress perception will increase social problem solving by 0.449.

Other findings are when viewed partially, only perceived stress and communication skills with peers have an influence on social problem-solving in students, while loneliness has no influence.

Discussion

The results of this study indicate that there is a very significant influence of loneliness, communication skills with peers, and perceived stress on social problem-solving in freshmen during pandemic Covid-19, which is 26.3%. These findings can be explained through the schematic representation of the social problem-solving process based on the five-dimensional model which was originally put forward by D'Zurilla et al. (2004). Loneliness and perceived stress can be described as dysfunctional problem solving

that leads individuals to impulsivity/careless style and avoidance style, while communication skills with peers can be described as constructive problem solving that leads individuals to rational problem-solving. When students feel lonely and stressed, students will tend to act in avoidance styles, such as skipping the classes, or carelessness/impulsivity styles, such as completing assignments quickly but not thinking about them properly. As a result, students' GPAs can be bad, because this impulsivity/carelessness style is the most influential dimension on student's GPA (Rodríguez-Fornells, & Maydeu-Olivares, 2000), and this is a negative thing. This situation encourages students to do more constructive problem solving, in this case, communication skills with peers. Communication skills with peers will direct individuals to alternative problem-solving that are more rational, such as asking when they don't understand and working together with friends. This will make students feel positive and finally find a way out.

Loneliness is considered as dysfunctional problem solving because loneliness is related to mental health problems and prevents individuals from developing good social relationships (Boerema, Kleiboer, Beekman, van Zoonen, Dijkshoorn, & Cuijpers, 2016). They tend to have poor social problem solving because lonely people are dominated by their negative emotions (Rubinstein et al., 1979), which hinder cognitive processes in problem-solving efforts (D'Zurilla et al., 2004). Lonely individuals have difficulty in building relationships, developing social skills, and finding social support, also dissatisfied with their social relationships (Ozben, 2013). This is called emotional loneliness, in which individuals feel they do not have an intimate and close bond with others (Dahlberg & McKee, 2014; Magaard, Seeralan, Schulz, & Brutt, 2017). Feeling lonely and alone, feeling rejected by the environment, will reduce the individual's sensitivity that other people can be asked for opinions and help when they are in trouble (Boerema et al., 2016; Kraines & Wells, 2017). Loneliness can contribute to problem-avoiding behavior. Individuals who consider themselves lonely will find it difficult to collect and utilize social resources that can lead to psychological adjustment (Hirsch, Chang, & Jeglic, 2012). Therefore, individuals who feel lonely tend to have poor social problem-solving (Hirsch, et al., 2012), which tend to have a negative problem orientation, impulsive problem solving, and tend to avoid problems (Chang et al., 2020).

Perceived stress is considered as dysfunctional problem solving because a person who feels stress tends to choose negative social problem-solving, and vice versa, stay away from posi-

tive social problem-solving (De la Fuente, Chang, Cardenoso, & Chang, 2019; Roy, Schwartz-Mette, & Nangle, 2020). Youth is a prone age to dysfunctional social problem-solving (De la Fuente, Chang, Cardenoso, & Chang, 2019). For freshmen, various demands from the academy are sources of heavy stress (Amirkhan & Kofman, 2018). The online learning process during pandemics has become one of the main sources of stress, caused by a lot of workloads, sub-optimal explanations, and feedback processes providing by teachers (Argaheni, 2020; Hamzah & Hamzah, 2020; Hasanah et al., 2020; Livana et al., 2020: Sundarasen et al., 2020). Other stressors in a pandemic are loneliness and social isolation (Elmer et al., 2020; Hwang, Rabheru, Peisah, Reichman, & Ikeda, 2020), which are related to peer relations, either it is in the context of friendship or romantic relationships (Anderson, Salk, & Hyde, 2015; Seiffge-Krenke et al., 2013). Social relations and their processes are prone to causing stress and disrupting the selection of appropriate social problem-solving (Lee, Nezu, & Nezu, 2018).

Perceived stress also reduces the individual's self-efficacy who are experiencing problems (Burger & Samuel, 2016; Coffman & Gilligan, 2002). Self-efficacy also influences social problem-solving. When individuals feel unsure that they can solve their problems well, they tend to avoid contact and communication with other people to solve these problems (Tang, Jang, Lingler, Tamres, & Erlen, 2015).

Communication skills with peers can be described as constructive problem-solving. Relationships with peers have a major contribution to healthy development, where interaction with peers will have a positive impact through the social learning process from experiences with friends (Bukowski, Buhrester, & Underwood, 2011). Individuals with good communication skills are found to be able to develop social problem-solving according to the problems they faced (Lau, 2014), create a more constructive problem-solving approach (Arslan, 2010). Good communication skills will increase social self-efficacy, thus causing individuals to feel able to develop warmth and healthy social relationships with others and expand social networks (Ahmad, Yasien, & Ahmad, 2014; Elmer et al., 2020; Erozkan, 2013; Meng, Huang, Hou, & Fun, 2014).

Communication via computers also allows the possibility of forming new friendships without any physical closeness. There has been a significant increase in the use of social media to meet communication needs during physical and social distancing and lockdown periods (Harris, 2020). McEwan and Guerrero (2010) stated that freshmen who reported being skilled in initiating communication stated that they used strategies in making friendships on social networks. By developing social networks, they feel that social resources or support are available, they not only join in the friendship that is offered to them but also invite others to join their social networks. In addition, the use of technology also plays a role in collaborative communication, where online discussion activities are useful in improving problem-solving skills in informal learning settings (Jamari, Zaid, Mohammed, Abdullah, & Aris, 2017).

Interestingly, when viewed separately, we found perceived stress still influences social problem solving but loneliness does not. This result can be explained by the study of Horowitz, French, and Anderson (1982) that lonely subjects have been found to produce significantly fewer solutions (and poorer quality) for interpersonal problems but not for non-interpersonal problems. As previously explained, social problem solving is related to personal, interpersonal, impersonal and community problems (D'Zurilla et al., 2004), and not only interpersonal problems, thus explaining why loneliness is not significantly affecting social problem-solving.

Conclusion

The findings of this research confirm that psychopathological factors such as loneliness and perceived stress can affect social problem-solving carried out by freshmen during the COVID-19 pandemic. Perceived stress is a factor that must be considered because it has the strongest influence in predicting social problem-solving. Communication skills with peers must be considered as a factor that can reduce the negative effects of loneliness and perceived stress, both offline and online. Freshmen can cultivate interpersonal competencies such as communication skills with peers to help them develop effective social problem-solving in dealing with existing problems.

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