Can social problem-solving help students alleviate stress?

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Abstract

There has been an increasing number of university students manifesting severe symptoms of stress and anxiety in the last fifteen years. All students face various everyday academic, financial, personal and interpersonal issues and career challenges, but those who leave home to study experience a greater number of stressors and have additional responsibilities in comparison with those who live with their parents. Most students are resilient, but some may develop serious problems. Problem-solving is an important general coping strategy that can improve a person's ability to cope with stress and prevent psychological maladjustment. The main goals of this study were to check the differences in levels of stress, psychological distress, problem orientations and problem-solving styles between those students that live at home and those who have moved away from home, as well as to check the role of stress and social problem-solving ability in the general psychological distress in these two groups of students. Students of different years of study from the University of Rijeka (N = 697, 72.2% female, 62% have moved away from home) completed an online questionnaire that included a *Social problem-solving inventory* (SPSI-R), a *Clinical outcome in routine evaluation (CORE-OM)* and an evaluation of perceived stress within the last six months. Students that left home for college reported a higher level of psychological distress and more negative problem orientations than those who stayed with their parents. The perceived stress and negative problem orientation are significant predictors of psychological distress in both groups of students. Positive problem orientation is a weak protective factor for those living with their family and avoiding/impulsive problem-solving style has a negative effect on psychological distress in those students who have moved away from home. The results offer some implications for preventive programs that can help students develop more efficient problem orientations and styles in order to alleviate their resilience and to improve their academic and everyday functioning.
Key words: university students, stress, social problem-solving, psychological distress

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Introduction

Research regarding the mental health of the college student population shows a high prevalence of mental health problems (Eisenberg, Hunt & Speer, 2013; Sarmento, 2015), as well as an increase in the severity of those problems (Gallagher, 2015; Hunt & Eisenberg, 2010; Prince, 2015; Zivin, Eisenberg, Gollust & Golberstein, 2009). It seems that college students are a high-risk population for mental health problems (Stallman, 2010).

Henriques (2014) talks about possible explanations for mental health crises in student populations in terms of broad societal considerations (e.g. economics), generational (e.g. emerging adulthood) and those specific to college and university life (e.g. increased enrolment into college and pressure to succeed). There is an increase in the number of young people who enrol into college and it is possible that more of them suffer from pre-existing mental health problems (Price, 2010). Previous studies testify that students cope with a great deal of stressors during college; such as daily hassles, financial concerns, interpersonal, intrapersonal, environmental and academic stressors (Ahmed, Riaz & Ramzan, 2013; Gadzella, 1991; Misra & McKean, 2000; Ross, Niebling & Heckert, 1999; Stallman & Hurst, 2016). Connell, Barkham and Mellor-Clark (2007) argue that, nowadays, students deal with higher expectations and aspirations, an increase in the number of exams, and financial pressures that make their lives more stressful than it was in previous decades. Those who have moved away from home have a number of additional problems to cope with in comparison to those students who stay with their parents (Hechanova-Alampay, Beehr, Christiansen & Van Horn, 2002). Our earlier research shows that students who live with their parents are emotionally better adjusted at the beginning of their studies, while in the final years of studying, students who had relocated show a better emotional adjustment (Živčić-Bećirević, Smojver-Ažić, Kukić & Jasprica, 2007).

Decades ago, Pearlin, Menaghan, Lieberman and Mullan (1981) described the stress process model which includes sources of stress (life events, life strains), mediating resources (social support and coping) and manifestations of stress on different levels (for example mental health problems). Stress can be a trigger for the development of many psychological problems and mental disorders (Esch, Stefano, Fricchione & Benson, 2002), and stressful life events within the past year are associated with an increased risk of developing depressive and anxiety symptoms (McLaughlin, Conron, Koenen & Gilman, 2010). Positive coping strategies, like problem-solving, social support, cognitive restructuring, emotional expression etc., can decrease the effect of stress on well-being (Lazarus & Folkman, 1984). Students who use positive coping strategies show better psychological well-being than those who are less inclined towards those strategies (Chen, Wong, Ran & Gilson, 2009). Problem-solving predicts physical health (Largo-Wight, Peterson & Chen, 2005), study habits and grades (Elliott, Godshall, Shrout & Witty, 1990), as well as depression, hopelessness and suicide ideation (Dixon, Heppner & Anderson, 1991; Yang & Clum, 1994) in college students.

Social problem-solving is a general coping strategy that D`Zurilla, Nezu and Maydeu-Olivares (2002a) define as the self-directed cognitive-behavioural process that people use in order to solve their problems in real-life social environments. According to the social problem-solving model, this specific strategy helps a person cope with stress which, in turn, increases her/his general competence and psychological well-being. Social problem-solving ability consists of two different, partially independent components: problem orientations (positive and negative) and problem-solving styles (rational, impulsivity-carelessness and avoidance) (D`Zurilla, Nezu & Maydeu-Olivares, 2002a). Problem orientation is a set of relatively stable schemas about a person`s beliefs, feelings and evaluations of a problem and

personal ability to cope with it. It is a metacognitive process that arises primarily from past problem-solving experiences and influences a person`s perception of new problem situations. Positive (facilitative) orientation includes a tendency to see a problem as a challenge or an opportunity to grow, to respond to problems with hope or other positive emotions and to approach and actively handle the problem. A negative (inhibitive) orientation includes a general tendency to respond to a problem with frustration, anxiety or other negative emotions, to perceive it as a threat and to avoid or put off solving a problem. On the other hand, problem-solving styles represent cognitive actions and behaviours by which a person tries to understand a problem and find a solution or a way to cope with it. The rational problem-solving style is characterized by the usage of constructive problem solving skills in order to find effective solutions. The impulsivity-carelessness style (i.e. applying the first idea that comes to mind) and avoidance (procrastination, inaction, and shifting responsibility to others) are likely to be dysfunctional and ineffective styles that can even create new problems. Rational problem-solving style and positive problem orientation are related to adaptive functioning and positive well-being, while negative problem orientation, impulsivity-carelessness and avoidance style are associated with maladaptive functioning and psychological distress (Chang, D`Zurilla & Sanna, 2004). Social problem-solving ability is related to depression (Nezu, Nezu, Saraydarian, Kalmar & Ronan, 1986), worry (Belzer, D'Zurilla & Maydeu-Olivares, 2002) and general psychological stress in college students (D`Zurilla & Sheedy, 1991). The special value of social problem-solving model comes from its useful implications for psychotherapy interventions (Chang, D`Zurilla & Sanna, 2004).

The main goal of this study was to check the role of stress and social problem-solving ability in students` general psychological distress in two groups of students: those who live with their parents during college and those who have moved away from home. We also sought to check the difference in problem-solving ability, level of perceived stress and general psychological distress in these two groups of students.

We have hypothesized that students who relocate will report higher levels of stress and more psychological problems, compared to those students who stay with their family, while we did not expect a difference in their problem orientations and problem-solving styles. We also expected that social problem-solving ability will predict the level of psychological distress in both groups of students, after controlling for the effects of the perceived level of stress.

Method

Participants and procedure

After receiving an invitation via their faculty e-mail address or via the University counselling centre web site and social networks, 697 students (age range from 19 to 26; 72.2% female, from the 1st to the 5th year of study) from different faculties of the University of Rijeka took part in the survey. The majority (62%) of them have moved from home to attend college. Data were collected in the other half of the winter semester, a very stressful period for all students as it is filled with task deadlines and final exams.

Measures:

Students evaluated their overall level of perceived stress within the last 6 months on a scale from 0 (not at all) to 10 (maximum level of stress).

The Social Problem-Solving Inventory-Revised, Short Form (SPSI-R; D'Zurilla, Nezu & Maydeu-Olivares, 2002b) is a 25-item self-report inventory that measures problem orientations (positive and negative) and problem-solving styles (rational, impulsivity/carelessness and avoidance). Students rate each item on a 5-point Likert scale (1 = *not at all true of me* to 5 = *extremely true of me*) on each subscale. All subscales showed good internal reliability with Cronbach's alpha coefficients from 0.73 to 0.84, which is similar to other research (Belzer, D`Zurilla & Mayden-Olivares, 2002; Vasilevskaia, 2010)

CORE-OM (*Clinical Outcome in Routine Evaluation – Outcome Measures*; Evans, Margison, Barkham, Audin, Connell & McGrath, 2000) is a 34-item measure of psychological distresses that address well-being, problems/symptoms, life/social functioning and risk behaviours in the last week. Participants rate each item on a 5-point scale from 1 (*never/not at all*) to 5 (*most or all of the time*) and higher scores indicate higher levels of psychological distress. The scale showed an excellent internal consistency in our study with Cronbach's alpha of .95, which is in accordance with former studies in Croatia (Jakovčić, Živčić-Bećirević & Birovljević, 2015; Jokić-Begić, Lauri Korajlija, Jurin & Evans, 2014) as well as in 22 other countries (Evans, 2012).

Results

In order to check the differences in the level of stress, psychological distress, problem orientations and problem-solving styles between students that live at home and those who have moved away from home we conducted a t-test that showed significant differences for two variables (Table 1). Students who have moved away from home report a higher level of psychological distress and more negative problem orientations compared to those who live with their parents.

Table 1. Differences between students that live at home and those who have moved away from home

Measures		live with parents (N=267)		moved from home (N=430)		t	Cohen d
		M	SD	M	SD		
SPSI - problem orientations	positive	17.49	4.30	17.26	4.31	.68	0.05
	negative	14.75	4.68	15.52	4.73	2.11*	0.16
SPSI – PS styles	rational	17.48	3.89	17.41	3.85	.22	0.02
	impulsivity	12.09	4.05	12.24	4.04	.46	0.04
	avoidance	11.34	4.61	11.54	4.88	.53	0.04
CORE-OM score		1.20	0.65	1.32	0.64	2.46*	0.19
perceived level of stress		7.19	1.88	7.23	1.95	.23	0.02

* $p < .05$

The role of stress and problem-solving ability in students` general psychological distress was analysed with a hierarchical regression analysis. The level of perceived stress was entered in the first step, two problem orientations in the second, and problem solving styles in the third step. We did not include the year of study because the preliminary analyses did not show

significant correlation with the level of perceived stress. Separated regression analyses were conducted for those who live at home and those who have moved away from home. Nearly 50% of variance was explained with the entered variables and the results are similar in both groups of students (Table 2). As expected, the level of perceived stress is a significant predictor of psychological distress. Problem orientations explain the additional amount of variance, with negative problem orientation being the most significant individual predictor in both groups of students. Positive problem orientation is a weak, but significant negative predictor only in the group of students who live with their family. As opposed to problem orientations, problem-solving styles have poor contribution. Only the avoidant problem-solving style was a significant but weak predictor of students' psychological distress in the group of students who moved away from home to attend college.

Table 2. The effects of the level of perceived stress, problem orientations and problem-solving styles on students` general psychological distress in the group of students who live with their parents and those who have moved away from home for study

		CORE-OM score					
		live with parents			moved away from home		
Step	Predictors	BETA	ΔR^2	R^2	BETA	ΔR^2	R^2
1.	*level of perceived stress*	.54***		.29***	.46***		.21***
2.	*PROBLEM ORIENTATIONS (PO)*		.17***	.46***		.21***	.42***
	level of perceived stress	.38***			.28***		
	positive PO	- .13*			- .09*		
	negative PO	.38***			.46***		
3.	*PROBLEM-SOLVING STYLES (PS style)*		.01	.47***		.02**	.44***
	level of perceived stress	.39***			.29***		
	positive PO	- .12*			- .08		
	negative PO	.32***			.37***		
	rational PS style	.04			.01		
	impulsive PS style	.03			.08		
	avoiding PS style	.10			.11*		

* p < .05   ** p < .01   *** p < .001

Discussion

The main goal of this study was to check the role of stress and social problem-solving ability in students` general psychological distress. First of all, it is important to note that students from our Croatian sample reported very high levels of perceived stress ($M = 7.21$ on a scale from 0 to 10) during the past six months. These results confirm earlier research findings, showing that students today experience various stressors and a high amount of stress (e.g. Stallman & Hurst, 2016). Stress is known to affect students' learning capability and academic performance (Chew-Graham, Rogers & Yassin, 2003) and may lead to disruptions in mental health. Some studies show that college students score significantly higher on measures of

mental health problems than does the general population of the same age (Stallman, 2010). Our study confirms the presence of high levels of psychological distress among students. The mean CORE-OM score in each student group is very close to the cut-off score of 1.38 that was found in the Croatian sample (Jokić-Begić et al., 2014). Almost 40% of our students rated above this cut-off CORE-OM score, which means that they experience such levels of anxiety, depression and risk behaviours as does the sample of hospitalized psychiatric patients.

The test on the difference between the two groups of students show that they differ only in the negative problem orientation and in the level of psychological distress (CORE-OM score). Students who have moved away from home have a higher level of psychological distress (M=1.32) compared to students who live with their family (M=1.20), even though there is no difference between the two groups in the amount of perceived stress. Probably because they are forced to be more independent and take care of themselves, these students are facing more challenges in everyday life compared to those who live at home. Besides that, these students usually have a weaker social network, they lack social support which is a well-known protective factor during times of stress. Students who don`t live with their parents during their college time also showed more negative problem orientations. Because they have a general tendency to view a problem as a threat to their well-being, they become emotionally upset when confronted with problems and doubt their own ability to solve their problems successfully (D'Zurilla & Nezu, 2010).

Interestingly, the students in our sample show higher scores on the measure of positive problem orientation than on the negative and score higher on rational problem-solving style than on the impulsive and avoidant style (p< .001). Positive problem orientation and rational problem-solving style are both constructive dimensions of social problem-solving that increase the likelihood of positive problem-solving outcomes (D'Zurilla & Nezu, 2010). On the other hand, negative problem orientation is linked to anxiety and worry (Dugas et al., 2007) and predicts future levels of anxiety, stress, and depression (Ciarrochi, Leeson & Heaven, 2009). Positive problem orientation is negatively correlated to negative problem orientation (in our sample r=-.33), which implies that by enforcing positive orientation we can decrease the effect of negative orientation. When students do have a positive problem orientation they are more motivated to use rational and other effective problem-solving styles and strategies (correlation between positive problem orientation and rational problem-solving style in our sample is .48), which can increase their chance of being successful in solving everyday problems and, in turn, enhance positive problem orientation in the future.

In order to check the contribution of stress and problem-solving to general psychological distress, we conducted hierarchical regression analyses in each group of students, with the level of stress entered in the first step, problem-solving orientations in the second, and problem solving styles in the third step. Nearly 50% of the variance was explained with all included variables and the results are similar in both groups of students. As expected, the perceived level of stress is the most significant predictor of psychological distress and problem orientations additionally explained a significant amount of its variance. It is noticeable that negative problem orientation has a more significant role in increasing psychological distress than positive orientation has in lowering it and increasing well-being in both groups of students. Positive problem orientation has a small protective effect on psychological distress only for the students who live with their parents, which might be due to their higher perceived social support.

Problem-solving styles seem to have a less important role in explaining students' well-being. The use of avoidant problem-solving style increases psychological distress only in the group

of students who relocate. The rational problem-solving style which is usually considered as the most functional, despite being the most pronounced, has no effect on students' distress.

These results are similar to that of previous research in the field of social problem-solving models that showed how negative problem orientation was positively related to anxiety and depression, while positive problem orientation was associated with lower levels of depression and anxiety (Siu & Shek, 2010). Flett, Hewitt, Blankstein, Solnik & Van Brunschot (1996) indicated that maladjustment is more strongly associated with problem-solving orientations than with the problem-solving skills. Effective problem orientation consists of being sensitive to detecting problems, being prepared to engage in problem-solving activity, being focused on adaptive problem-solving thoughts, moving away from unproductive thoughts, and being persistent when encountering obstacles and emotional distress (D'Zurilla & Nezu, 1999).

Even though positive problem orientation wards off negative effects and facilitates effective problem-solving (Nezu & D'Zurilla, 1989), negative emotions that arise from having negative problem orientation serve as a barrier to being active in searching for problem solutions (D'Zurilla & Nezu, 1999). These findings highlight the importance of reducing negative problem orientation in order to enhance successful problem-solving and improve students' well-being. If students don`t believe that they can handle their problems, they may take a passive role and act helpless, which can result in giving up and falling behind in assignments which can lead to dropping out from college in the end. One possible way to improve problem solving orientations (and skills) is administering Problem-solving therapy (PST) with students. Problem-solving therapy is based on social problem-solving theory and is a form of cognitive behavioural therapy (CBT). One of the primary goals of PST is to encourage and provide methods for reducing and shifting from a negative to a positive problem orientation, in particular encouraging confronting an uncomfortable situation instead of avoiding it (D'Zurilla & Nezu, 1999). Problem-solving therapy has different training modules that focus on various aspects of the social problem-solving ability which gives clinicians and researchers the opportunity to design their own PST programmes tailored to meet the needs of a specific group or population. It can be adapted and administered in individual and group settings in order to increase well-being and promote better stress management. A problem-solving therapy module for problem orientation is focused on fostering self-efficacy, recognizing problems, viewing problems as challenges, inhibiting tendencies to be impulsive or avoidant and using and controlling emotions (D'Zurilla & Nezu, 1999). Since negative emotions have such a strong impact on decision-making and problem-solving abilities (Spering, Wagener & Funke, 2005), students need to learn emotional regulation skills. It is important to focus on anxiety which is especially related to problem orientation but not to problem-solving skills. Anxiety puts a temporal focus on future threats rather than the current situation and the problem orientation subscale incorporates subjective feelings of confidence about the ability to solve problems in the future (Flett et al., 1996).

Finally, we would like to stress some of the limitations of our study. We only used self-reporting measures and it would be interesting to see how students react and behave in real-life problem situations. The level of stress was measured with a single item, as we were interested only in the overall feeling of stress, not on specific stress sources. Future research might include a measure of different types of stressors. We also plan to evaluate the effectiveness of problem-solving training with a student group to provide empirical evidence that an effective coping strategy for academic and life problems improve psychological well-being and academic functioning.

In conclusion, our results are in line with the stress process model, confirming the role of social problem-solving, as a specific coping strategy, in explaining the psychological distress in college students. The results emphasise the higher importance of problem orientations (primarily negative orientation) than problem-solving styles in college students' mental health. It is recommended to apply problem-solving therapy to promote better stress management and increase students' well-being, especially among those students who have moved away from home.

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