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Proactive Coping Behavior in Sample of University Students in Helping Professions

Jitka Vaculíková

Abstract: The purpose of the present study is twofold. First is to carry out item and scale analysis of the Czech version of the Proactive Coping Inventory (PCI) on a selected sample of university students in helping professions (n = 176). Second is to identify the use of proactive coping strategies by gender, age, specialization and year of study. The PCI scales reached satisfactory item-total correlations, besides the items presented (8, 39 and 48). Internal consistency of the PCI scales ranged from .71 to .8, except low α for Strategic Planning. Students reached the highest use of emotional and instrumental support seeking with no overall socio-demographic differences. Further, interrelationships among the PCI scales and correlations within a subjective well-being, depression and social support are presented.

Keywords: proactive coping, PCI, student in helping professions

Contact to author

Tomas Bata University in Zlín
Faculty of Humanities
nam. T. G. Masaryka 5555
760 01 Zlín
jvaculikova@fhs.utb.cz

Kontakt na autora

Univerzita Tomáše Bati ve Zlíně
Fakulta humanitních studií
nám. T. G. Masaryka 5555
760 01 Zlín
jvaculikova@fhs.utb.cz

Proaktivní zvládání u vysokoškolských studentů pomáhajících profesí

Abstrakt: Cíl předložené studie je dvojí. Prvním cílem je položková a škálová analýza české verze Dotazníku proaktivního zvládání životních nároků (PCI) na souboru vysokoškolských studentů pomáhajících profesí (n = 176). Druhým cílem je zjištění používání proaktivních strategií dle pohlaví, věku, specializace a ročníku studia. Korelace položek s odpovídajícími škálami jsou uspokojivé, kromě uvedených položek (8, 39 a 48). Vnitřní konzistence škál se pohybovala od 0,17 do 0,8, kromě nízké hodnoty α u škály Strategického plánování. Studenti v největší míře využívali emoční a instrumentální podporu bez celkových sociodemografických rozdílů. Vzájemné korelace PCI škál a jejich vztah s prožíváním vnitřní pohody, deprese a využíváním sociální podpory jsou dále prezentovány.

Klíčová slova: proaktivní zvládání, PCI, student pomáhajících profesí

1 Introduction

A wide range of research on social cognition, social interaction, stress and coping aims to analyze the processes through which people anticipate or detect potential stressors and act in advance to prevent them or to mitigate their consequences. Aspinwall and Taylor (1997) first used the term for such a behavior called *proactive coping* and opened a vast area of new research in the stress and

coping literature. As such, proactive coping differs from coping with stressful events and from anticipatory coping on three main grounds.

First, proactive coping forms and occurs temporally prior to both coping and anticipatory coping. In this case, utilizing internal resources and specific skills to overcome particular stressors is not activated; instead, forearmed preparation for similar situations in the future occurs. Second, different skills are important during proactive coping than in coping with external stress. These are mainly related skills to estimate potential stressors before they actually appear. Third, as compared with coping with existing stressors, proactive coping is virtually always active, pre-addressing nonexistent stressors; thus, different skills and activities are likely to be successful. For example, emotional support may be less important or unhelpful when focusing on nonspecific factors.

Aspinwall and Taylor (1997) divide proactive coping into five time-related stages: (1) resource accumulation in advance of any specific anticipated stressor; (2) attention-recognition (ability to see a potential stressful event); (3) initial appraisal; (4) preliminary coping; and (5) elicitation and use of feedback. However, Schwarzer and Taubert (2002), building upon Lazarus´s (1991) cognitive appraisal approach, added a temporal dimension.[23] This perspective stems from a time-related classification of coping models and proposes distinctions between reactive coping, anticipatory coping, preventive coping and proactive coping. They believe that coping, among other factors, depends on the time perspective of the demands and the subjective certainty of the events. In this sense, proactive coping is oriented on certain future rewards and challenges not appraised as threats. Proactive individuals are motivated to meet challenges and are *not reactive, but proactive* in the sense that they initiate a constructive path of action and create opportunities for their growth.

Although Aspinwall and Taylor (1997) have described proactive coping very similarly, what they call proactive coping is mainly covered by the term “preventive coping” in the aforementioned Schwarzer and Taubert approach (2002). In preventive coping, individuals consider a critical event that may or may not occur in the distant future. Examples of such events are illness, disaster, job loss, forced retirement, crime and poverty. There can be a vague wariness that “something might happen,” which motivates one to prepare for “everything.” Conversely, proactive behavior does not prevent negative appraisals, such as harm, loss or threat.

While in the past coping was seen as a reactive strategy used after stress is experienced, coping is more recently being viewed as *something one can do prior to when stress occurs*. According to Greenglass (2002), proactive coping is multifunctional, multidimensional and forward-looking. It combines the processes aimed at maintaining or improving the quality of life with processes aimed at achieving personal goals. Greenglass highlights three main areas in which proactive coping differs from traditional conceptions of reactive coping: (1) proactive coping is more future-oriented and consists efforts to build up general resources that facilitate promotion of challenging goals and personal growth; (2) proactive coping is regarded as goal management instead of risk management; and (3) the motivation for proactive coping is more positive perceptions of situations as challenging.

To measure different aspects of coping used by individuals during stressful times as well as in anticipation of stress and difficult situations, a multidimensional research instrument, the *Proactive Coping Inventory (PCI),* was developed by Greenglass, Schwarzer and Taubert (1999). The PCI integrates affective, cognitive, social and intentional factors into a set of coping strategies. This 55-item instrument identifies seven dimensions of coping, which are: proactive (i.e., “I like challenges and beating the odds”); reflective (i.e., “I tackle a problem by thinking about realistic alternatives”); preventive (i.e., “I prepare for adverse events”); strategic (i.e., “I break down a problem into smaller parts and do one part at a time”); instrumental support seeking (i.e., “When solving my own problems, other people's advice can be helpful”); emotional support seeking (i.e., “If I am depressed, I know who I can call to help me feel better”); and avoidance (i.e., “When I have a problem I like to

[23] Proactive coping is primarily defined as long-term behavior with no necessary concrete stressor, and is seen as self-regulatory goal management instead of risk management.

sleep on it"). A four-point scale with 1 indicating "*not at all true*," 2 "*barely true*," 3 "*somewhat true*," and 4 "*completely true*" was used. Reverse scoring is done only for 3 items (2, 9 and 14) from the Proactive Coping Scale. Higher scores indicate that the individual concerned is more inclined towards this particular coping style and indicates better proactive coping ability.

It may seem that the PCI and its subscales offers many possibilities for testing hypotheses relevant to increasing our understanding of the process of coping. However, proactive coping may go largely unrecognized as it can be difficult to detect. Relatively nothing happens when people act to minimize or prevent the onset and development of potential stressors. Instead, our attention is focused on cases when people are not able to handle certain situations and stressors – and their consequences – are visibly manifested. Proactive coping, by contrast, improves quality of life and in so doing includes elements of positive psychology and extends into a wide area of related disciplines, such as social cognition and self-regulation, stress management, health, psychology on coping and self-regulatory goal attainment (see also Schwarzer & Renner, 2000). For instance, closely-related self-regulation is often described as the ability to develop, implement and maintain planned behavior in order to achieve personal goals (Brown, Miller, & Lawendowski, 1999). These self-regulatory skills reveal a great deal about how people anticipate stressful events and manage to avoid them or minimize their impact.

Our presented review of the resources and group differences is focused on a specific sample of university students in helping professions. Such professions often represent the fields of medicine, nursing, psychotherapy, psychological counseling, social work, social education, life coaching and religious ministry. Unsurprisingly, there is a very close link to the socio-educational field of practices since these professionals go on to work in various different institutional contexts, social networks or networks in the community. Therefore, this kind of work includes individuals able to carry out socio-educational activities in the domain of formal and non-formal education, in community and social services and even in real-life practices in other emerging areas such as hospital, retirement, prison or juvenile justice institutions. No doubt proactive management should be a part of the personality skills of these students/professionals working in helping professions. Further, the development of proactive coping is not only a necessary condition for effective preparation for such future professions, but, ultimately, represents personality development of the students, especially important for those working in helping professions.

Additionally, there are several reasons to believe that positive beliefs contribute to the promotion of subjective *well-being*. For example, individuals with a sense of self-worth may practice conscientious health habits more, thus, promoting their well-being (Greenglass & Fiksenbaum, 2009). Also those who employ coping strategies based on proactivity more often perceive that their lives are going well. On this basis, positive relationships from proactive coping behavior is expected. Moreover, the conceptualization of *social support* as coping broadens the concept of coping (as it has traditionally been defined) to include interpersonal and relational skills (Greenglass, 2002). This approach recognizes the importance of others' resources that can be adapted into the individual's coping repertoire and improve emotional well-being (e.g. Dunkel-Schetter, 1984; Holland & Holahan, 2003). Social support, well-being and coping should be seen as positively correlated (Greenglass & Fiksenbaum, 2009). On the other hand, proactive coping is often associated with lower negative behaviors, such as *depression* (Almássy et al., 2014). In order to provide additional evidence for the construct validity of the PCI scales, these relationships are analyzed in the present study.

2 Aims of the Investigation

The purpose of the present study is twofold. First is to check the item and scale characteristics covering descriptive statistics, item-total correlations and internal consistency tests. Further, interrelationships among the PCI scales in available samples and clarifications of the correlation within a subjective well-being, social support and feelings of depression are explored. Second is to

identify the use of proactive coping strategies by socio-demographic characteristics, i.e., gender, age, specialization and learning experience (year of study) of the university students in helping professions including, inter alia, future social educators and preschool teachers.

It is assumed that proactive coping is generally beneficial to a person and improves many life domains, including the quality of professional work and personal life. In this sense, proactive copers anticipate stressful events before the events occur and take appropriate steps to avoid or at least minimize them. Young and middle-aged adults seem to be a suitable population for proactive coping examination, since this age group faces the task of adapting to real-life day-to-day conditions. Also, given that working with others requires undertaking attempts to prevent future stressors, the research sample was narrowed to university students in helping professions. As of yet, only a few empirical studies have been realized in the Czech educational environment.

3 Method

3.1 Participants

Participants were 176 university students from a medium-sized public university in the Czech Republic.[24] Convenience sampling was conducted on a voluntary basis and data was collected using a paper-pencil questionnaire in a regular classroom settings. The mean age of the sample was 22 years (ranging from 19 to 26 years).[25] 8 (4.5%) males with an average age of 22.4 years (age ranged from 20 to 25 years, SD = 1.90) and 168 (95.5%) females with an average age of 21.5 years (age ranged from 19 to 26, SD = 1.49). The female distribution was positively skewed (.67), and the Kolmogorov-Smirnov and Shapiro-Wilk test indicated deviations from normality (K-S $p < .001$; S-W $p < .001$). There was no significant age difference between females and males.

121 (68.8%) of students surveyed had chosen Social Education for their future profession and 55 (31.2%) of students attended Preschool Teachers' Training in full-time study settings. The second year of bachelor's degree study represented numerically the largest group of Social Education specialization and the first-year students of bachelor's degree study predominated in the Preschool Teachers' Training study program. The distribution of gender, age, year and field of study is shown in Table 1.

Table 1
Demographic details of the samples

	Gender		Age		Year of Study					Specialization	
Frequency	male	female	19-20	21-26	1st year Bc	2nd year Bc	3rd year Bc	1st year Mgr	2nd year Mgr	Social Education	Preschool Teachers' Training
N	8	168	95	77	59	55	32	21	9	121	55
%	4.5	95.5	53.9	43.8	33.5	31.3	18.2	11.9	5.1	68.8	31.2

*Note*s. N = Number of respondents. % = Relative frequency. Bc = Bachelor's study. Mgr = Master's study.

3.2 Measures

The aim of the original Proactive Coping Inventory (PCI; Greenglass, Schwarzer, & Taubert, 1999) scales was to capture the multidimensionality contained in various aspects of coping used by

[24] The basic research sample (N = 1.183) consisted of full-time university students majoring in humanities studies.

[25] Age of the respondents was, for statistical purposes, further divided into two categories according to the developmental stage of adolescence and young adulthood.

individuals during stressful events as well as in anticipation of stress and difficult situations ahead. In the first stage of the PCI development, students and psychologists assisted in generating 137 items pool concerning coping behaviors. The proposed questions were categorized according to the Schwarzer´s Proactive Coping Theory[26] and subjected to psychometric analysis. There were six new scales consisting of a total 52 items constituting 6 subscales. At this stage, a three-item scale measuring Avoidance Coping was included and the original PCI scales were developed on a Canadian student sample (Greenglass, 2002) and validated using a Polish-Canadian adult and student sample (Pasikowski, Sek, Greenglass, & Taubert, 2002). Respondents answered according to a four-point scale with 1 representing "*not at all true*" to 4 "*completely true*."

The PCI shows reasonably good psychometric properties including internal consistency for each subscale with α´s ranging from .61 to .85 (Greenglass, Schwarzer, & Taubert, 1999). In general, each of the subscales showed good item-total correlations. Measures from related constructs such as self-efficacy, life satisfaction, fair treatment, active coping, planning, or emotional exhaustion, cynicism, anger or depression, were included to provide additional evidence for the construct validity of the scales. In addition, principal component analyses confirmed their factorial structure and homogeneity (ibid).

Within the last decade PCI has been translated into many language contexts, such as Hungarian (Almássy et al., 2014), Hindi (Bhusham, Gautam, & Greenglass, 2010), Macedonian (Ristovska et al., 2014) and Czech (Šolcová, Lukavsky, & Greenglass, 2006), and used in a large multiethnic sample (Roesch et al. (2009). Since the PCI was previously translated and tested in the Czech educational environment, the Czech version of the PCI (Šolcová, Lukavsky, & Greenglass, 2006) was used in the present study. Authors tested an alternative three-factor model on a medium-size university student sample favoring the original 7-factor structure of the PCI.[27]

To clarify the interrelation of proactive coping with a subjective social support, well-being and depression, the subjects also completed Czech versions[28] of the Medical Outcomes Study (MOS; Kožený & Tišanská, 2003; original scale: Sherbourne & Stewart, 1991) measuring social support; Schwartz Outcomes Scale (SOS-10; Dragomirecká et al., 2006; original scale: Blais et al., 1999) measuring well-being; and the Beck Depression Inventory (BDI-II; Preiss & Vacíř, 1999, original scale: Beck, Steer, & Brown, 1996). In these additional measures, respondents answered according to a four-point scale with 1 representing "*none of the time*" and 4 "*all of the time*." Positive correlations between avoidance coping and depression, social support and well-being were theoretically expected. Finally, demographic items stating gender, age, specialization and year of study were presented.

3.3 Procedure

Data analysis was divided into three parts. First, descriptive characteristics at the *item level* are presented covered by calculating mean, standard deviation and item-total correlation between each item and the total subscale score, excluding the particular item[29].

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[26] The focus of the theory is moved away from mere responses to negative events toward a broader range of risk and goal management that includes the active creation of opportunities and the positive experience of stress (Schwarzer & Taubert, 2002).

[27] The original English and Czech versions of the PCI are identical, enabling international comparisons.

[28] Due to the recommended length of the article of the presented journal and also due to the fact that presented measures do not fulfill the main purpose of the paper, futher details of the measures are not included. More readings can be made under the quotations cited for each measurement.

[29] In both original samples (Greenglass, Schwarzer, & Taubert, 1999), authors used a different method of calculating the item-total correlation. More specifically, the particular item was not excluded from the total subscale score, which complicates comparisons and generates errors in the interpretation of the items.

Second, the descriptive statistics of the use of proactive coping strategies are described at the *scale level*. Internal consistency of the PCI scales and its comparison with existing α coefficients[30] as well as the PCI subscales correlations with a subjective well-being, social support and depression are presented. Third, possible *differences between groups* of students according to gender, age, specialization and year of study (socio-demographic characteristics) were tested at a level of α = .05 for all statistical tests.[31] Calculations were performed using IBM SPSS 22.

4 Results

4.1 Item Analysis

An itemized analysis brought detailed descriptive comparison of the obtained item scores (see Table 2-8). Prior to describing the scales that represent the construct, an item-total correlation tests was performed to check if any item is inconsistent with the averaged behavior of the others; that is, whether it fits the meaning of the averaged measure. A small item-correlation provides empirical evidence that the item is not measuring the same construct measured by the other items included.[32]

First, within the **Proactive Coping Scale** (see Table 2) combining inherent goal setting with self-regulatory goal attainment behavior, the sample scored the highest on Item 48 ("When I apply for a position, I imagine myself filling it"), and Item 37 ("I try to pinpoint what I need to succeed"). Unsurprisingly, the same items were scored the highest by the medium-sized Czech young adult sample (Šolcová, Lukavský, & Greenglass, 2006). Although Item 48 is of average strength, its correlation with the scale is weak (.18). Together with Item 8 (.10), this seems conceptually problematic, showing unrelated connection with the individual items making up the scale. The remaining item-total correlations ranged between .25 and .59.

Table 2
Proactive Coping Subscale

No.	Item*	M (SD)	$r_{it\text{-}t}$
1	I am a "take charge" person.	2.69 (.63)	.49
8	I try to let things work out on their own. (-)	2.53 (.83)	.10
15	After attaining a goal, I look for another, more challenging one.	2.18 (.84)	.46
22	I like challenges and beating the odds.	2.85 (.78)	.47
28	I visualize my dreams and try to achieve them.	2.95 (.77)	.49
33	Despite numerous setbacks, I usually succeed in getting what I want.	2.91 (.64)	.52
37	I try to pinpoint what I need to succeed.	3.12 (.64)	.25
41	I always try to find a way to work around obstacles; nothing really stops me.	2.81 (.72)	.52
45	I often see myself failing so I don't get my hopes up too high. (-)	2.81 (.87)	.42
48	When I apply for a position, I imagine myself filling it.	3.17 (.87)	.18
51	I turn obstacles into positive experiences.	2.66 (.82)	.45
53	If someone tells me I can't do something, you can be sure I will do it.	2.78 (.80)	.57
54	When I experience a problem, I take the initiative in resolving it.	2.59 (.72)	.59
55	When I have a problem, I usually see myself in a no-win situation. (-)	2.46 (.91)	.53

Notes. *= The items were provided to respondents in the Czech language. Original English version is used for illustration purposes. - = Reversed items. M = Mean. SD = Standard deviation. $r_{it\text{-}t}$ = Item-total correlation.

Reflective Coping Scale combines reflection about a variety of possible behavioral alternatives, analyzing their effectiveness, resources and creating hypothetical plans of further action. The sample

[30] The results revealing the current factor structure of the PCI for the Czech sample are presented otherwise.

[31] Possibly confounding results were corrected by the Bonferroni method.

[32] A correlation value less than .2 or .3 indicates that the appropriate item does not correlate very well with the scale overall and, thus, it may be dropped while building the final factor structure (Field, 2005).

performed the highest on Item 23 ("I tackle a problem by thinking about realistic alternatives"). Standard deviation (.60) shows that the prevailing opinion is quite stable across the data set. The same highest result was achieved by the Czech young adult sample (Šolcová, Lukavský, & Greenglass, 2006). Item-total correlations ranged from .27 to .62 (see Table 3).

Table 3
Reflective Coping Subscale

No.	Item	M (SD)	r_{it-t}
2	I imagine myself solving difficult problems.	2.60 (.86)	.27
9	Rather than acting impulsively, I usually think of various ways to solve a problem.	2.85 (.74)	.34
16	In my mind I go through many different scenarios in order to prepare myself for different outcomes.	2.96 (.83)	.40
23	I tackle a problem by thinking about realistic alternatives.	3.04 (.60)	.51
29	When I have a problem with my co-workers, friends, or family, I imagine beforehand how I will deal with them successfully.	2.93 (.78)	.43
34	Before tackling a difficult task I imagine success scenarios.	2.79 (.81)	.54
38	I take action only after thinking carefully about a problem.	2.59 (.74)	.40
42	I imagine myself solving a difficult problem before I actually have to face it.	2.59 (.82)	.62
46	I address a problem from various angles until I find the appropriate action.	2.77 (.74)	.45
49	When there are serious misunderstandings with co-workers, family members or friends, I practice before how I will deal with them.	2.56 (.89)	.47
52	I think about every possible outcome to a problem before tackling it.	2.78 (.81)	.52

The sample seems to be very practically careful when it comes to financial and family security in the future. **Preventive Coping Subscale** deals with a potential threat in the future by considering experience or knowledge before these stressors develop fully. By contrast, proactive coping does not refer to the threat but is instead driven by goal striving. The highest score was reached on Item 39 ("I make sure my family is well taken care of to protect them from adversity in the future"), followed by Item 50 ("I try to manage my money well in order to avoid being destitute in old age").

However, Item 39, related to the protection of the family in the future, does not correlate with the scale well (.04). This may be due to its very specific meaning. The other items are more content general while describing potential stressors. The remaining item-total correlations ranged between .31 and .52 (see Table 4).

Table 4
Preventive Coping Subscale

No.	Item	M (SD)	r_{it-t}
4	I plan for future eventualities.	2.78 (.69)	.36
11	Rather than spending every cent I make, I like to save for a rainy day.	2.85 (.94)	.44
18	I prepare for adverse events.	2.59 (.77)	.50
25	Before disaster strikes I am well-prepared for its consequences.	2.28 (.74)	.35
30	I plan my strategies to change a situation before I act.	2.56 (.76)	.44
35	I develop my job skills to protect myself against unemployment.	2.81 (.79)	.31
39	I make sure my family is well taken care of to protect them from adversity in the future.	3.62 (.54)	.04
43	I think ahead to avoid dangerous situations.	2.87 (.73)	.52
47	I plan strategies for what I hope will be the best possible outcome.	2.84 (.78)	.47
50	I try to manage my money well in order to avoid being destitute in old age.	2.89 (.96)	.44

Strategic Planning Subscale focuses on creating a set of actions needed to achieve the goals in which extensive task are broken down into manageable components (see Table 5). The average scores of the items are very evenly matched, lying just below point 3 on the scale. However, Item 3 ("I often find ways to break down difficult problems into manageable components") reached the highest value

in the presented sample as well as in the Czech young adult sample. Overall, items correlate with the scale on a satisfactory level (ranging from .29 to .39).

Table 5
Strategic Planning Subscale

No.	Item	M (SD)	r_{it-t}
3	I often find ways to break down difficult problems into manageable components.	2.67 (.67)	.39
10	I make a plan and follow it.	2.48 (.79)	.29
17	I break down a problem into smaller parts and do one part at a time.	2.59 (.67)	.34
24	I make lists and try to focus on the most important things first.	2.61 (.95)	.39

The **Instrumental Support Seeking Subscale** focuses on obtaining information, feedback or advice from other people when dealing with stressors. This support is used by the sample widely, especially in the case of Item 36 ("Talking to others can be really useful because it provides another perspective on the problem"), and Item 5 ("When solving my own problems other people's advice can be helpful"). The same results were achieved by the Czech young adults. The item-total correlations ranged from .26 to as high as .61 (see Table 6).

Table 6
Instrumental Support Seeking Subscale

No.	Item	M (SD)	r_{it-t}
5	When solving my own problems other people's advice can be helpful.	3.30 (.65)	.38
12	I try to talk and explain my stress in order to get feedback from my friends.	2.85 (.86)	.59
19	Information I get from others has often helped me deal with my problems.	3.13 (.64)	.45
26	I can usually identify people who can help me develop my own solutions to problems.	3.17 (.66)	.26
31	I ask others what they would do in my situation.	2.99 (.85)	.54
36	Talking to others can be really useful because it provides another perspective on the problem.	3.32 (.66)	.50
40	Before getting messed up with a problem I'll call a friend to talk about it.	2.69 (.85)	.56
44	When I am in trouble I can usually work out something with the help of others.	3.01 (.67)	.61

The average results on **Emotional Support Seeking Scale** items were in order identical to the results of the Czech young adults. Out of the item pool, Item 20 scored the highest ("I know who can be counted on when the chips are down"). Basically, emotional support seeking refers to emotional self-regulation with the assistance of a significant other. The item-total correlations ranged from .40 to .52 as shown in Table 7.

Table 7
Emotional Support Seeking Subscale

No.	Item	M (SD)	r_{it-t}
6	If I am depressed I know who I can call to help me feel better.	3.42 (.80)	.48
13	Others help me feel cared for.	3.10 (.77)	.50
20	I know who can be counted on when the chips are down.	3.52 (.68)	.40
27	When I'm depressed I get out and talk to others.	2.65 (.99)	.46
32	I confide my feelings in others to build up and maintain close relationships.	2.93 (.85)	.52

The last, the **Avoidance Coping Scale**, deals with the situation resolution delay. Item 14 ("If I find a problem too difficult sometimes I put it aside until I'm ready to deal with it") reached the highest value. Although the length of the scale is quite short (5 items), the item-total correlations ranged between .54 and .57, forming a compact scale (see Table 8).

Table 8
Avoidance Coping Subscale

No.	Item	M (SD)	r_{it-t}
7	When I have a problem I like to sleep on it.	2.31 (.95)	.55
14	If I find a problem too difficult sometimes I put it aside until I'm ready to deal with it.	2.72 (.80)	.54
21	When I have a problem I usually let it simmer on the back burner for a while.	2.20 (.81)	.57

4.2 Scale Analysis

The descriptive statistics of the PCI subscales are presented in Table 9. Means and standard deviations at the scale level ranged from an approximate low of M = 2.41 (SD = .68) for avoidance coping, followed by strategic planning (M = 2.59, SD = .52) to an approximate high of M = 3.12 (SD = .56) for emotional support seeking and instrumental support seeking (M = 3.06; SD = .47). These results differ significantly, $x^2(6, n = 176) = 202.31$, $p < .001$. Standard deviations ranged from .41 to .68. The Czech sample was generally high on each subscale of the PCI. This resulted in a negative skew for each scale at the univariate level (skewness values ranged from -1.43 to .42).

Table 9
The descriptive statistics of PCI

PCI subscales	Mean	Median	Minimum	Maximum	SD
Proactive Coping	2.75	2.79	1.71	3.79	.41
Reflective Coping	2.77	2.73	1.36	4.00	.45
Preventive Coping	2.81	2.80	1.60	3.80	.42
Strategic Planning	2.59	2.50	1.00	4.00	.52
Instrumental Support Seeking	3.06	3.00	1.63	4.00	.47
Emotional Support Seeking	3.12	3.20	1.40	4.00	.56
Avoidance Coping	2.41	2.33	1.00	4.00	.68

It merits mention that the original PCI scale was developed on a Canadian student sample and validated on Polish-Canadian students and adults who had immigrated to Canada (Greenglass, Schwarzer, & Taubert, 1999). These students represent an older and more heterogeneous sample than the present data set of the university students in helping professions. The Cronbach´s α coefficients reported for both the original scale (Polish-Canadian sample) as well as this Czech sample show a low α coefficient of reliability (or consistency) for the Strategic Planning Scale (α = .55). This test says how closely related a set of items are as a group (scale) or a factor.[33] Researchers argue that an acceptable α coefficient is the value .7 or above (Muijs, 2011). However, there are no straightforward definitions of what it should be.[34]

The Cronbach's α coefficients of the PCI scales of the Canadian student sample (Greenglass, 2002), Polish-Canadian adult and student sample (Pasikowski, Sek, Greenglass, & Taubert, 2002), Hungarian sample (Almássy et al., 2014), Czech young adult sample (Šolcová, Lukavský, & Greenglass, 2006), and presented Czech sample with number of items are summarized in Table 10. Overall, α coefficients ranged in acceptable values between .71 and .8. The α coefficients for the Proactive Coping Scale (.80) and Reflective Coping Scale (.80) seem comparable to that of the items pertaining to Polish-Canadian sample. The PCI scales of the Czech sample are more reliable compared to Czech

[33] It should be also borne in mind that reliability is the characteristic of the test scores, not the tests themselves. As the same test has different reliability for various populations, the scores can depend on the characteristics of the research sample, which are subjected to testing (Blahuš, 1985).

[34] Values for reliability are also affected by the number of people in the sample on which the reliability estimate is based. The larger the sample, the smaller the error surrounding the reliability estimate will be. Moreover, the reliability is also sensitive to the number of items. As the length increases then so too should the reliability.

young adults, besides the above-mentioned Strategic Planning Scale. Thus, though the Czech sample shows psychometrically slightly more diverse properties than the original scale to a certain extent, it demonstrates sufficient consistency.

Table 10
Internal reliability of the PCI scales and number of items

	Cronbach´s α coefficients					
PCI subscales	Canadian student sample	Polish-Canadian sample	Hungarian sample	Czech young adult sample	Czech sample	Number of items
Proactive Coping	.85	.80	.82	.76	.80	14
Reflective Coping	.79	.80	.85	.80	.80	11
Preventive Coping	.71	.79	.80	.75	.74	10
Strategic Planning	.83	.71	.71	.65	.55	4
Instrumental Support Seeking	.85	.84	.86	.73	.78	8
Emotional Support Seeking	.73	.64	.78	.60	.71	5
Avoidance Coping	.61	.74	.73	.62	.73	3

As stated by Greenglass (2002, pp. 16-17), since proactive coping involves purposive accessing of information for selecting and constructing courses of action, reflective coping should be associated positively with proactive coping. At the same time, the proactive coper integrates planning, preventive strategies and social resources with self-regulatory goal setting. This means that proactive coping should be associated as well with planning, prevention strategies and identifying and seeking support resources. The interrelationships among the PCI scales were calculated using Spearman rank order correlations (rho)[35] and compared with existing data, shown in Table 11.

As expected, the correlations point to the existence of strong relationships among subscales, which confirms that the scales measure certain aspects of proactive coping. Observed relationships are consistent with the findings of the Canadian student and Czech young adult sample, and the most similar results were identified by Polish-Canadian sample (line 2 in Table 11).

Proactive coping scores correlated positively[36] with some of the other PCI scales, including reflective coping (r_{rho} = .47, p < .001, r^2 = 22%)[37], preventive coping (r_{rho} = .44, p < .001, r^2 = 19%) and strategic planning (r_{rho} = .33, p < .001, r^2 = 11%), but negatively correlated with avoidance coping (r_{rho} = -.37, p < .001, r^2 = 14%). These findings support multidimensionality of the construct (Greenglass, 2002). In all four samples, positive correlations between the Proactive Coping Subscale and the other PCI subscales are identified, but with clear evidence of clusters marking several distinct dimensions. The two support seeking scales were highly correlated with each other in all samples (ranged from r_{rho} = .52 to .77, p < .001, r^2 = 27% to 59%), which requires consideration whether or not they are separate factors. The small correlation (r_{rho} = .27, p < .001, r^2 = 7%) between reflective coping and instrumental support seeking in the Czech sample is surprising. It could indicate that obtaining advice, information or feedback from people in one´s social network may be a part of reflection. This relationship is captured only in the Czech sample.

[35] There are a number of assumptions when performing correlations tests. Preliminary analysis showed violation of the assumption of normality using the Shapiro–Wilk test of normality. Since the scores on each variable are not always normally distributed, using Pearson´s product moment correlations (*r*) would not be appropriate in the presented data set.

[36] Cohen (1988, pp. 79-81) suggests interpreting the strength of the relationship between the two variables as follows: *r* = .10 to .29 (small); .30 to .49 (medium); .50 to 1.0 (large).

[37] The coefficient of determination (r^2) is a number that indicates the proportion of the variance in the one variable that is predictable from the other variable tested. R^2 expressed in percentage (i.e., percentage of the shared variance) can be calculated from the relationship $\sqrt{r}$*100.

There was a large correlation with a large overlap between reflective coping and preventive coping (r_{rho} = .60, p < .001, r^2 = 36%) and positive correlation with strategic planning (r_{rho} = .42, p < .001, r^2 = 18%), indicating similar coping operations. Preventive coping was associated with strategic planning (r_{rho} = .53, p < .001, r^2 = 28%) and negatively correlated with avoidance coping (r_{rho} = -.37, p < .001, r^2 = 14%). Furthermore, once the strategic planning is used, the avoidance coping is reduced (r_{rho} = -.34, p < .001, r^2 = 12%). Other significant correlations (in range of p = .01 to .05) were low, indicating weak correspondence (r_{rho} = -.15 to .19, r^2 = 2 % to 4%).

Table 11
Intercorrelations between Subscales of the PCI in diverse samples

PCI subscales	Proactive Coping	Reflective Coping	Preventive Coping	Strategic Planning	Instrum. Support Seeking	Emotion. Support Seeking	Avoidance Coping[a]
Proactive Coping	1.00	.37 .42 .34 .47**	.43 .43 .27 .44**	.38 .29 .26 .33**	.24 .14 .19 .17*	.30 .29 .26 .19*	 -.25 -.37**
Reflective Coping		1.00	.66 .62 .63 .60**	.53 .55 .49 .42**	.10 .18 .13 .27**	.08 .21 .00 .14	 -.22 -.15*
Preventive Coping			1.00	.46 .51 .48 .53**	.10 .06 .23 .18*	.09 .11 .02 .04	 -.18 -.37**
Strategic Planning				1.00	.16 .13 -.01 .16*	.10 .07 .01 .11	 -.23 -.34**
Instrumental Support Seeking					1.00	.76 .77 .52 .71**	 .02 .00
Emotional Support Seeking						1.00	 .02 -.06
Avoidance Coping							1.00

Notes. **= Correlation is significant at the .01 level. *= Correlation is significant at the .05 level. a = A 3-item scale measuring avoidance coping was included after the item pool was analyzed and reduced in order to develop a set of proactive coping scales with good psychometric properties.

Line 1 in each data cell is from Canadian student sample (N = 252)
Line 2 in each data cell is from Polish-Canadian sample (N = 144)
Line 3 in each data cell is from Czech young adult sample (N = 176)
Line 4 in each data cell is from presented Czech sample (N = 176)

In order to shed further light on the content of the PCI subscales of the presented Czech data set, relationships between the related outcome measures and PCI subscales were examined. The results are set out in Table 12. The outcomes that were included are subjective well-being (measured by the SOS-10), depression (measured by the BDI-II) and a manifested degree of social support (measured by the MOS). It was expected that the sample would experience less distress (lower depression) when they used higher proactive coping (Uskul & Greenglass, 2005). On the other hand, it was also

assumed that proactive coping would lead to a greater perception of well-being and higher level of social support. Thus, employing coping strategies based on proactivity is more likely to be associated with an increase in well-being, as assessed by a variety of different psychological measures (Greenglass & Fiksenbaum, 2009). In effect, since copers are prepared to deal with stress, they can make a good use of drawing on others' resources in coping with difficult situations. Further, social support and coping synergistically can contribute to a positive effect and the motivation to move ahead with life.

Table 12
Correlations between PCI scales and outcome measures

	Outcome measures		
PCI subscales	Well-being (SOS-10)	Social support (MOS)	Depression (DBI-II)
Proactive Coping	**.43****	**.19***	**-.36****
Reflective Coping	**.24****	.12	-.14
Preventive Coping	.15	.11	**-.16***
Strategic Planning	**.15***	.11	**-.18***
Instrumental Support Seeking	**.19***	**.28****	.05
Emotional Support Seeking	**.32****	**.32****	-.04
Avoidance Coping	-.12	-.06	**.21****

Notes. **= Correlation is significant at the .01 level. *= Correlation is significant at the .05 level.

Results show that proactive coping correlated positively with well-being (r_{rho} = .43, p < .001, r^2 = 18%), with high levels of proactive coping associated with high levels of well-being. A negative correlation was found between proactive coping and feelings of depression (r_{rho} = -.36, p < .001, r^2 = 13%). Thus, to the extent that individuals confront stressors by setting goals with self-regulatory goal attainment cognitions and behavior, they are less likely to experience depression. A small correlation is associated with proactive coping and social support (r_{rho} = .19, p = .010, r^2 = 4%). As expected, depression is also negatively correlated with preventive coping (r_{rho} = -.16, p = .033, r^2 = 3%) and strategic planning (r_{rho} = -.18, p = .020, r^2 = 3%), but positively associated with avoidance (r_{rho} = .21, p = .005, r^2 = 4%).

Higher well-being scores were related to higher scores on proactive coping (mentioned above), reflective coping (r_{rho} = .24, p < .001, r^2 = 6%), strategic planning (r_{rho} = .15, p = .041, r^2 = 2%), instrumental support seeking (r_{rho} = .19, p = .013, r^2 = 4%), and emotional support seeking (r_{rho} = .32, p < .001, r^2 = 10%). In other words, score of this positive measure increased with stated coping scores. Thus, to the extent that individuals employ strategies that include goal setting, reflection of the situation, mental simulation and seeking emotional support, they are more likely to experience satisfaction with life in term of well-being. Additionally, few significant correlations were observed between social support and instrumental support seeking (r_{rho} = .28, p < .001, r^2 = 8%) and emotional support seeking (r_{rho} = .32, p < .001, r^2 = 10%). However, the values were lower than expected.

4.3 Group differences

Males and females were contrasted on each of the seven subscales as well as different groups by age, year of study and study specialization. Females were higher than males on Proactive coping ($Md_{females}$ = 2.79, Md_{males} = 2.64; U = 624, z = -.35, p = .730, r = .03), Preventive coping ($Md_{females}$ = 2.8, Md_{males} = 2.6; U = 456, z = -1.54, p = .124, r = .12), and Instrumental Support Seeking scale ($Md_{females}$ = 3, Md_{males} = 2.94; U = 616, z = -.4, p = .690, r = .03), but the differences did not reach statistical significance.[38] Conversely, males (Md = 2.67) tend to use avoidance to a greater extent than females (Md = 2.33) while coping. If they find problem too difficult, they might more likely put it

[38] A Mann-Whitney U test (M-W U test) using grouping variable with the two categories was employed.

aside until they feel ready to deal with it. To our surprise, males (Md = 3.18) scored higher on Emotional Support Seeking Scale than females (Md = 3.12) in our data set. However, both differences were not significant.

Other findings suggest that females are able to utilize social support from others to develop instrumental and preventive coping strategies more effectively than males (Greenglass, 1993). According to Etzion and Pines from their research in 1981 (in Greenglass, 1993), because females tend to talk more with others as a way of coping with stress, they are more often able to make more effective use of their support networks than males. However, presented differences did not reach statistical significance on any of the PCI subscales, as mentioned earlier. Though, naturally, careful interpretation of the results must be taken into account due to the gender imbalance in the presented data set (4.5% vs. 95.5%); however females do tend to dominate humanities-oriented professions.

Usage of proactive coping increases with time spent at university, and the highest values are achieved in the last year of study (see Figure 1), although with no significant increases, $x^2(4, n = 176) = 4.91$, $p = .297$.[39] Basically, all positive proactive copings increased over time except avoidance coping. Avoidance coping decreases during the students' stay at university, $x^2(4, n = 176) = 1.12$, $p = .890$, meaning that students use more effort to deal with a stressor at the end of their studies. Nevertheless, the differences were not significant.

The same results were reached after dividing the sample into the two age categories (Group 1: 19-21 years old, 54%; Group 2: 22-26 years old, 44%; 4 missing values), reflecting trends occurring according to students' learning experience (i.e., year of study). The largest but non-significant differences were reported in proactive coping behaviour ($Md_{19\text{-}21} = 2.71$, $Md_{22\text{-}26} = 2.86$; $U = 3339$, z -.98, $p = .330$, $r = .07$).

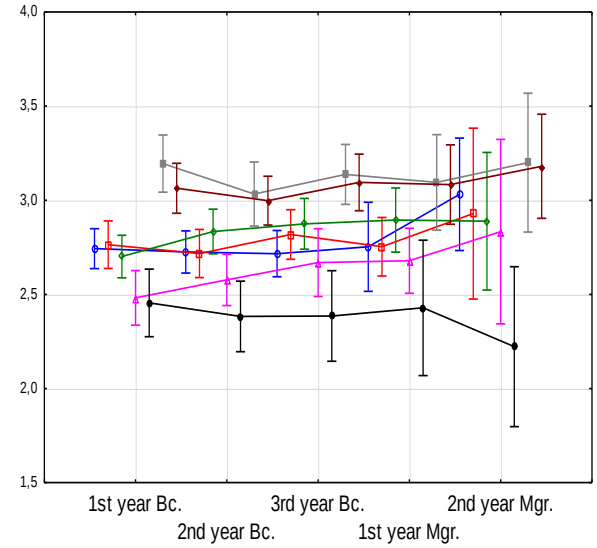

Figure 1 PCI subscales differences by year of study

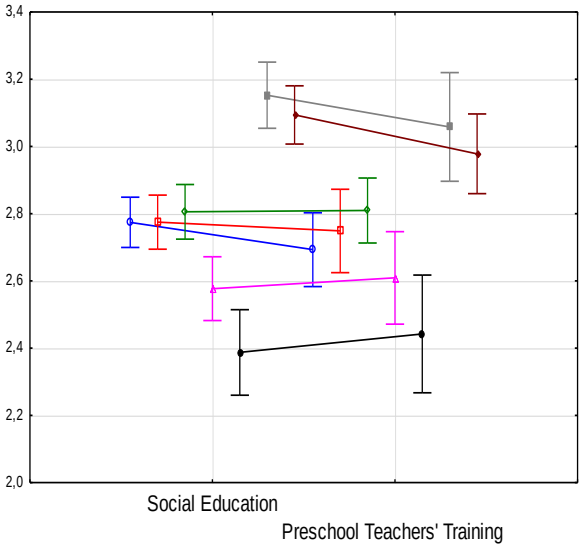

Figure 2 PCI subscales differences by study specialization

Proactive Coping; Reflective Coping; Preventive Coping; Strategic Planning; Avoidance Coping; Emotional Support Seeking; Instrumental Support Seeking

Notes. Bc = Bachelor's study. Mgr = Master's study.

In addition, there were no significant differences regarding study specialization among Czech students in helping professions (see Figure 2). However, the closest outcome to represent a

[39] A Kruskal-Wallis test (K-W test) with Bonferroni correction was used in multiple comparisons.

significant difference was obtained in Instrumental Support Seeking Scale scores (see Table 13). Social educators (Md = 3.13) were higher on the Instrumental Support Seeking Scale than preschool teachers (Md = 3). Presumably due to the very narrowly profiled fields of study in the sample, these differences are not significant (U = 2815, z -1.64, p = .088, r = .06). According to recent research from the Czech educational environment (Šolcová, Lukavský, & Greenglass, 2006), students of economics reached a higher score on the Proactive Coping Scale and Strategic Planning Scale, and were lower on Avoidance Coping Scale when compared to students of other disciplines (i.e., psychology, engineering and humanities).

Table 13
PCI subscales significance by field of study

	Social Education	Preschool Teachers´ Training	SE-PTT Difference
PCI subscale	M (SD)	M (SD)	Sig.
Proactive Coping	2.78 (.41)	2.69 (.41)	.131
Reflective Coping	2.78 (.44)	2.75 (.46)	.853
Preventive Coping	2.81 (.45)	2.81 (.36)	.820
Strategic Planning	2.58 (.52)	2.61 (.51)	.678
Instrumental Support Seeking	3.09 (.48)	2.98 (.44)	.088
Emotional Support Seeking	3.15 (.54)	3.06 (.60)	.409
Avoidance Coping	2.39 (.70)	2.44 (.65)	.677

Notes. SE = Social Education. PTT = Preschool Teachers´ Training. M = Mean. SD = Standard deviation. Sig. = Significance.

5 Discussion

Proactive coping refers to the behavioural strategy focused on the assessment of potential stressors, preparedness, prevention of undesirable situations (Aspinwall & Taylor, 1997) and the accumulation of resources in order to facilitate dealing with future life challenges (Greenglass & Fiksenbaum, 2009). Proactive copers perceive problems and stressful events as opportunities and a chance to test their strength. Such a point of view is in opposition to the traditional perception of proactive coping as dealing with a threat or failure. The change of the perspective brings an active construction of opportunities and the positive experience of stress.

When considering professions in terms of the existence of stress and psychological intensity of daily duties, workers in helping professions belong to so-called “exposed work professions.” These professionals are more exposed to negative stress, burnout, psychic fatigue and depression. Therefore, proactive coping is especially important for these students/professionals due to its future stress minimization. When a stressful event is a possibility rather than an actuality, its full impact may be lessened or averted (Aspinwall & Taylor, 1997). Also when a stressful event is about to appear, a student or professional may possess a wide range of options to handle it and chronic stress may be kept to a low level.

The purpose of the present study is twofold. First, by checking item and scale characteristics of the Proactive Coping Inventory (PCI) including item-total correlations and internal consistency tests, the presented study provides an evidence of its practicality and reliability. The PCI (Greenglass, Schwarzer, & Taubert, 1999) represents a multidimensional research instrument integrating affective, cognitive, social and intentional factors into a set of coping strategies. The 55 items cover proactive, reflective, preventive, strategic, instrumental support seeking, emotional support seeking and avoidance coping. Based on the existence of the Czech adaptation of the PCI scales (Šolcová, Lukavsky, & Greenglass, 2006), the Czech language version was administrated. Using homogeneous but in terms of profession background of heterogeneous sample, this study identifies the use of proactive coping strategies and clarifies the interrelation of proactive coping with subjective well-being, social support and depression.

The second purpose of the study is to analyze the differences by gender, age, specialization and year of study of students in helping professions including, inter alia, future social educators and preschool teachers. Further, it is assumed that the development of the proactive coping is not only a necessary condition for effective preparation for the future profession, but, ultimately, represents personality growth of the students. As such, insights gained by identification of prevailing aspects of proactive coping behavior in sample of university students in helping professions provide an extension to complementary perspective to existing literature on proactive coping and related constructs, such as presented well-being, social support and depression.

To summarize, the present study opens an area of proactive coping in the field of helping professions. More precisely, students reached the highest scores on social support scales, i.e., they presented the highest use of emotional and instrumental support seeking. Thus, students recognize the importance of resources in others, share concerns and receive advice that is needed to cope with the stressor. This finding is consistent with a blossoming of interest in the role of interpersonal relationships in protecting people from the possibly pathogenic effects of stressful events. On the other hand, the lowest score was achieved by avoidance coping, followed by strategic planning. The results represent students' abilities to confront stressors, albeit with a lower ability to plan this action.

The descriptive characteristics of the items provided scores on a single item and item-total correlations. It turns out that Items 48 and 8 from the Proactive Coping Subscale and Item 39 from the Preventive Coping Subscale seem to be conceptually problematic, and on that ground could be dropped. Overall, remaining item-total correlations ranged from an approximate low .25 to an approximate high of .62, forming compact scales.

The Cronbach´s α coefficient ranged in acceptable values of .71 and .8, except moderately-low α for Strategic Planning Subscale (.55). As expected, the correlations among PCI subscales point to the existence of strong relationships confirming that the scales measure certain aspects of proactive coping. Observed relationships are consistent with the findings of the Canadian student (Greenglass, 2002) and Czech young adult sample (Šolcová, Lukavský, & Greenglass, 2006), with the closest correlation results identified by Polish-Canadian sample (Pasikowski, Sek, Greenglass, & Taubert, 2002).

It was expected that students would experience less distress including lower depression when they used higher proactive coping (Uskul & Greenglass, 2005). Conversely, it was assumed that proactive coping would lead to a greater perception of well-being and higher level of social support. Results showed moderate-negative correlations between proactive coping and depression, and moderate-positive correlations between proactive coping and well-being. The Depression Scale is also negatively correlated with reflective coping, preventive coping, and strategic planning. Furthermore, avoidance coping is, as expected, positively associated with depression. Achieving higher values on the well-being scale were related to higher scores on Proactive Coping, Reflective Coping and Emotional Support Seeking Subscales.

In addition, differences by gender, age, specialization and year of study were analyzed. Observed trends detecting differences by individual groups are presented; they did not, however, reach significance. Moreover, in all samples, positive correlations between the Proactive Coping Subscale and the other PCI subscales were identified, but with clear evidence of clusters marking several distinct dimensions. The two support seeking scales were highly correlated with each other in all samples, which demands an answer whether or not they are separate factors. The small correlation between reflective coping and instrumental support seeking in the presented Czech sample is surprising. It may indicate that obtaining advice, information or feedback from people in one´s social network may be a part of reflection.

The ability to cope with stressful changes has several potential benefits, but also drawbacks. One is that, if a stressful situation has not appeared so far, then it is possible that it may not appear at all. In

such a case, proactive activities, plans and strategies would have been unnecessary. Another disadvantage is when a stressful situation has not yet appeared all the activities can result in the inherent ambiguity of potential stressors. Initial coping efforts, then, may be ineffective, or they may actually broaden the problem. Aspinwall and Taylor (1997) regard avoiding the future possible obstacles as an effective strategy if an individual disengages from a potential threat.

There are a number of methodological limitations to the current study. Three primary limitations are now discussed. First, as stated by Roesch et al. (2009), the PCI is a dispositional measure of coping. Thus, responses to nonspecific external stressors may result in a different action. It is difficult, however, to conceptualize how proactive coping could be meaningfully assessed because of the temporal orientation of this measure, where stressors are anticipated but not necessarily known (Roesch et al., 2009). Second, these results are generalizable only to this presented research sample of students in helping profession. Therefore, inferring from the presented findings the proactive coping behavior of the entire population would be inappropriate. The third limitation is related to the medium-size sample represented by 272 university students. Given that a sincere effort was made to minimize influence of the results by forcing students to participate in the research, voluntary anonymous participation was conducted. Nevertheless, non-forced participation seemed to be appropriate, even though it posed the risk of a small-sized sample.

For future research, it would be interesting to determine to what extent individual differences in proactive coping can be explained by personality traits. Such research has been conducted on a sample of older adults (aged 50–70) regarding proactive coping strategies, and five trait variables, namely future temporal orientation, goal orientation, dispositional optimism, self-efficacy, and aging anxiety (Ouwehand, de Ridder, & Bensing, 2008). On this basis, comparative results could reveal the development of proactive coping and influence of personality traits among students and older adults.

Lastly, there are several reasons for believing that positive beliefs and positive emotional states are related to promotion on well-being, good social relationships and health. Those people are more likely to cope proactively with stressful situations and can function in promoting well-being. Further, temporal aspects of coping has often been neglected. One can cope before a stressful event takes place, while it is happening or after the event happened (Schwarzer & Taubert, 2002). Assessment and findings of these situations creating a particular temporal context could bring interesting results. Basically, research focused on extending coping strategies offers a more comprehensive picture of humans' struggle with life.

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