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SUBJECTIVE WELL-BEING AMONG TEENAGERS OF DIFFERENT AGES: THE ROLE OF EMOTIONAL REACTIVITY AND SOCIAL SUPPORT FROM VARIOUS SOURCES

The aim of the study was to examine the effects of emotional reactivity and support from different sources for the well-being of teenagers on different stages of development. Data on emotional reactivity, perceived social support from different sources and subjective well-being (SWB) was gathered from 180 younger and 135 older adolescents. Regression analyses included emotional reactivity and social support from different sources as predictors of SWB (positive affect, negative affect and life satisfaction). Analyses showed that emotional reactivity predicted all components of SWB. Support was a significant predictor for positive affect and satisfaction, but its specific functions depended on age group and its analyzed source. Interaction effects of support with emotional reactivity were significant only among older adolescents - positive affect depended on interaction between emotional reactivity and support from friends, life satisfaction depended on interplay between emotional reactivity and support from teachers.

Key terms: social support, subjective well-being, emotional reactivity

INTRODUCTION

Well-being, quality of life or satisfaction with life are terms gaining popularity in psychological research in the last decades. Shift from pathology to positive aspects of human life is a reflection of the development of modern societies (Inglehart, 1990). We now have time and resources to wonder: what makes us happy? What makes some people be happy all the time while others keep feeling blue? What is happiness after all? It seems that those questions are asked by people in different cultures and the idea of happiness is important to people all over the world (Suh, Diener, Oishi & Triandis, 1998), although different factors may determine it (Diener, 2000).

The main aim of the study was to examine the role of emotional reactivity and social support from different sources for different components

(emotional and cognitive) of well-being. Furthermore we include a developmental perspective – the aim was also to verify the meaning those factors for teenagers of different ages. Unfortunately, hitherto studies lack examinations that systematically include the stage of development in the well-being analyses, especially when different sources of social support are taken into consideration.

The article presents research into subjective well-being among two groups of teenagers (younger and older adolescents). We attempt to analyse the relationships between social factors (social support from different sources) personal factors (emotional reactivity) and subjective well-being. The assumptions underlying the study are that people differ in terms of subjective well-being and if those differences stem from stable traits then some people are predisposed to being more

happy than others. We may not ignore, however, the influences of the social environment, so we assume, that those predispositions are modified by some environmental factors, making this study of an interactionist nature.

SUBJECTIVE WELL-BEING

There are many models of well-being. Generally, they can be divided into those stressing hedonism and meaning, subjective and objective and stressing affective or cognitive aspects of functioning (Carr, 2009; Linley, 2009; Zalewska, 2003). Although objective measures seem to be more fitting to compare people, they have significant drawbacks, such as the complex relationships between objective indexes and subjective outcomes for well-being. In the present research subjective measures are more adequate, since they treat respondents as the experts on their own well-being, rather than imposing objective measures. Models focusing on pleasure (hedonism) seem too narrow and one can easily expect that leading a life of pleasure is a dangerous path and may end in well-being deterioration. Thus a good model of well-being needs to include not only pleasurable states but also some opinions about the quality of one's life, even if they are done according to individual criteria. Thirdly, a good model of well-being needs to reflect the duality of human life: emotions and cognition, which do not always stay in congruence.

Two components of well-being. Studies prove, that the two components: emotional and cognitive are relatively independent (Diener, Emmons, Larsen & Griffin, 1985) and not always congruent (Klonowicz, 2001; Lucas, Diener & Suh, 1996; McKennell & Andrews, 1983). The affective component is also complex – positive and negative affect are not exclusive opposites (Watson, Clark & Tellegen, 1988). Life satisfaction on the other hand, may be treated either as a homogenous – general life satisfaction

– or a complex dimension. The latter includes satisfaction with different areas of life but it has one drawback – the choice of areas to be assessed as satisfying or not is predetermined by the researcher, thus questioning the subjectivity of the assessment. In the present study we choose general life satisfaction as one of the components of well-being, mainly because it allows the respondents to use their own criteria for assessing their life satisfaction.

Transactional model of subjective well-being. The model stresses complex relationships between individual traits, environment, their interactions and SWB (Zalewska, 2003). It pertains to subjective experience of well-being and it includes positive affect, negative affect and life satisfaction. Individual valuations of well-being are cognitive (what I think about my life) and emotional (what I feel). Those two components are relatively independent and may have different determinants. The transactionality of the model is expressed in the idea, that each component of well-being as well as relations between them can be influenced by individual traits, environment and their interactions.

INDIVIDUAL TRAITS AND WELL-BEING

Some events make everyone happy, some make everyone unhappy but what are the factors that differentiate people into those predisposed to seeing a broader spectrum of situations as favourable in contrast to those who tend to look for the negatives? There are many personal traits that are connected to well-being, such as optimism, locus of control, sense of humour, self-esteem (Dunning, Leuenberger & Sherman, 1995) or attribution style (Cheng & Furnham, 2003). However, in order to distinguish people with different relatively stable predispositions we need to look for the most basic traits. There are basically two groups of traits that are known to be strongly genetically predetermined, and thus may constitute a good basis for well-

being stability. The first are personality traits – low neuroticism and high extraversion, which constitute a ‘happy personality’ and are known to be largely genetically predetermined (Costa & McCrae, 1980). Those personality traits correlate with the second group – temperament traits, that are by definition stable and work in a broad spectrum of situations.

Apart from traits connected to temperament and personality, some other variables may influence well-being, also the demographic ones. Studies show, that gender may play an important role (Tesch-Romer, Motel-Klingebiel & Tomasik, 2008), as well as other demographic variables, but they usually do not account for much of the SWB variance (Andrews & Whitey, 1976). Taking this into consideration, it might be good to control for some demographics in the study. We decided to take gender into account, as well as place of education. Usually level of education is also included, but since our research participants were still students, their education was similar for all participants at a given age.

Emotional reactivity according to Regulative Theory of Temperament and well-being. In Regulative Theory of Temperament Emotional Reactivity is described as (Strelau, 2006; Zawadzki & Strelau, 1997) a formal characteristic of behaviour, stable over time and biologically determined. It means a tendency to react intensely to emotional stimuli, expressed in high sensitivity and low emotional resistance. The existing data indicate that it regulates stress appraisal and the need for emotional stimuli and reactions to those stimuli (de Pascalis, Jeger, Chiaradia & Carotenuto, 2003; Łuszczynska & Cieslak, 2005). Moreover, high emotional reactivity is associated with more intensive negative emotions and increases susceptibility to negative effects of stressors on performance and health (Strelau & Zawadzki, 2005; Strelau, 2002). The functions and theoretical assumptions about emotional reactivity suggest that its high level is not beneficial for well-being and allow to expect

that higher emotional reactivity will predict lower well-being, especially when it comes to its affective components. As was discussed above, however, the relationships between traits and well-being outcomes are not straightforward – it might be expected that social environment elements play also an important role.

SOCIAL SUPPORT AND WELL-BEING

In most research, social support seems beneficial for human functioning, but there are also results indicating different outcomes. As mentioned by Cieslak (2004) those discrepancies stem from the fact, that researchers do not indicate, whether they study perceived or received support. Whereas perceived support is usually beneficial, as it is a part of resource estimation (Cieslak, 2004), received support plays a different role. Some researchers maintain (Brock & Lawrence, 2009; Bolger & Amarel, 2007) that too big, too small or inadequate support may negatively influence individual functioning. Researchers who include social support in their studies into well-being developed a number of theoretical models, which explain why social support may play a significant role for individual well-being.

The one that is most interesting from the point of view of this paper, is the model proposed by Łuszczynska and Cieslak who state, that support can play a protective, promotive or buffering role for well-being (2005). The protective role means that the higher the perceived social support, the less situations are perceived as stressful. The promotive role serves its function before a stressful situation occurs – promoting well-being in a broader spectrum of situations by increasing the level of perceived security and safety. Finally, the buffering effect serves as an intermediary between stress and its outcomes, especially on health and well-being – an individual with better support system has a broader spectrum of tools (emotional, instrumental or social) to deal with stressful situations, thus reducing their negative

effects. Those three functions of social support are especially interesting when the role of emotional reactivity is taken into account. Its different levels determine the extent to which an individual perceives the environment as stressful (this might be connected to the protective role of support), but also might hinder the development of social contacts thus making the individuals believe that their support system is less available (connected to decreased promotive role of support), and also result in actual decrease of support, thus making it less possible for the support to buffer the effects of stress on well-being. Taking all that into consideration, we decided to include perceived social support into the study, since it most probably serves as a resource helping achieve high well-being (Taylor, Sherman, Kim, Jarcho, Takagi & Dunagan, 2004; Frazier, Tix & Barnett, 2003; Po Sen, Saucier & Hafner, 2010).

A significant aspect of the relationship between support and well-being is the source of support. It can be divided into formal and informal (Robbins & Tanck, 1995). Formal support usually comes from institutions such as social care, church, psychologists or NGOs. What is characteristic for this type of support is that it is not reciprocal – each player has their own role – the supporter and the one receiving help. In case of informal sources the situation is more complex – the roles can be switched at any time – but it is also more natural and symmetrical. Both groups of sources are important, but from the perspective of general, everyday well-being informal sources of support seem more vital, as they act in a stable manner, and not only incidentally.

Numerous studies show that support from different sources predicts well-being of teenagers to different extents (Burke & Weir, 1979; Vera et al. 2008; Benhorin & McMahon, 2008; (Danielsen, Samdal, Hetland & Wold, 2009; Caldwell, Silverman, Lefforge & Silver, 2004). Generally, it seems that support coming from the family is of greatest importance for teenagers' well-being (Po Sen, Saucier & Hafner, 2010),

but there is little indication as to the role of that support for different components of well-being and the existing data mostly pertains to adults or the elderly (Cieślak, 2009; Ilies, Johnson, Judge & Keeney, 2010; Maureen, 1993). Furthermore, there is no systematic research, that compares teenagers of different ages and the existing comparisons gave contradictory results. Thus it might be helpful to include additional variables into the studies, that are known to be connected with well-being which might explain some of the existing controversies.

In the light of the above research results, we may ask: **Which sources of social support play a significant role for examined components of SWB ?**

DEVELOPMENTAL PERSPECTIVE

A human being develops throughout the entire life so it is important to observe the changes in relationships between important aspects of human life on different age levels. According to Levinson (1978, 1997) people constantly build and rebuild their life structures in a preset order, and the observed dynamic of changes allows to divide life span into eras, intertwined with transitional periods, which are characterised by intense change. Each era is characterised by different, specific developmental tasks pertaining to major areas of life such as career, education, family and relationships with others.

In the first – pre-adulthood – era (0-17 years) young people develop biologically, socially and psychologically. It is a time of intensive turbulence connected to developing identity. This era is completed with the transitional period (17-22 years of age), when young people make their first, independent life choices and become adults. The pre-adulthood era and the transitional period are the basis for future life – the three adulthood eras, early, middle and late adulthood. The natural question arises: **Are there differences in subjective well-being between teenagers of**

different ages? Which would then be followed by questions partly answered by data from the literature discussed below: Is subjective well-being subject to the same influences at those two stages or are the determinants of well-being different depending on development stage? What happens in that period, especially when it comes to subtle differences in the meaning of support from various groups of people – i.e. what is the role of social environment? On the other hand, is the contribution of traits with strong genetic components for SWB the same or different?

Emotional reactivity and age. The functions and definition of emotional reactivity, as well as research into the concept indicate that emotional reactivity itself changes with age and also, that the role that it plays for other dimensions also undergoes changes. The average levels of emotional reactivity among people of different ages form a u-shaped distribution (Zawadzki & Strelau, 1997) with higher values among youngest and oldest people. As emotional reactivity is connected to perceptions of stress and functioning in stressful situations (Strelau, 2006), its role may be different in transitional periods, which include intense changes possibly leading to stress. So we will try to determine what are **the effects of emotional reactivity for each of the three components of SWB in different age groups.**

Social support and development. The relationships between social support and well-being are different on different age levels. Studies indicate that the effects of support on well-being among teenagers increase with age – older teenagers gain more from support than younger, probably because their relationships are less hierarchical in nature (Po Sen, Saucier & Hafner, 2010). Furthermore, depending on age group, different social environments play a vital role – be it family, friends, or schoolmates (Vaux, 1988), so teenagers may look for support in different circles, which in turn may influence the effects of support sources on well-being. Until now, there is

no systematic research into the meaning of social support for well-being, especially when different sources are included, so we will examine the role **of support from various sources for each of the three components of SWB among younger and older teenagers.**

Since the presented model includes the perceived social support, which proved to be beneficial for well-being in most of the hitherto studies, we may suspect that the observed effects will be positive, but whether all sources are of similar importance is impossible to say. Moreover, we may suspect, that emotional reactivity will interplay with support, but again we do not know whether this will happen for the support from all sources to the same extent. This leads to the formulation of the third research question: **are there any significant effects of interactions between support from various sources and emotional reactivity on SWB in each of the two age groups?**

RESEARCH QUESTIONS

The aim of the study is to answer the following questions:

Q1. Are there differences between age groups in SWB?

Q2. Is emotional reactivity a predictor of the three components of SWB in the two age groups?

Q3. Is social support from different sources a predictor of the three components of SWB among younger and older teenagers?

Q4. Are there any significant effects of interaction between support from various sources and emotional reactivity on SWB in each of the two age groups?

METHOD

PARTICIPANTS

315 participants took part in the study, including girls (N=202) and boys (N=113),

that were attending second grade of secondary school (*gimnazjum*) and second grade of high school (*liceum*). The first group, named 'younger adolescents' was aged 13-14 year old (N=180), there were 117 girls and 63 boys, 121 from Warsaw and 60 from Mielec. The second group 'older adolescents' was aged 17-18 years old (N=135), there were 85 girls and 50 boys, 76 from Warsaw and 59 from Mielec. Younger adolescents represent the pre-adulthood era and the older adolescents – transitional period from adolescence to adulthood (older group; Levinson, 1978; 1997). All teenagers, who participated in the study attended public, average sized schools in a moderately wealthy district in Warsaw and in Mielec. The schools were chosen randomly from a list of schools published in the internet.

QUESTIONNAIRES

Positive and Negative Affect Schedule PANAS. PANAS measures the emotional aspect of quality of life (Watson, Clark & Tellegen, 1988). It includes the negative affect scale (10 items; $\alpha=0,85$) and positive affect scale (10 items; $\alpha=0,89$; Crawford & Henry, 2004). The participants were asked to take into account the previous two weeks in their evaluations. Such reference period makes the PANAS scores mostly an index of attitudes – more stable than a state, but less stable than a trait. High indexes point to high intensity of the given affect, so in case of positive affect they will indicate high well-being and in case of negative – low well-being (scale from 1 to 5).

Satisfaction with Life Scale SWLS. SWLS is designed to measure the cognitive aspect of subjective well-being (Diener, Emmons, Larsen & Griffin, 1985). The questionnaire has high reliability ($\alpha=0,87$) and validity (Pavot & Diener, 1993). High indexes point to high satisfaction (scale from 1 to 7).

Formal Characteristics of Behaviour – Temperament Inventory is used to measure temporal and energetic aspects of human behaviour – six temperament traits, including emotional reactivi-

ty. In the present study only results for emotional reactivity were analysed. The emotional reactivity scale was proved reliable ($\alpha = 0,83$) and valid (Zawadzki & Strelau, 1997). Higher scores mean higher emotional reactivity (scale from 1 to 20).

What support can you count on? SWS-8 is used to measure perceived support from various sources. In the original version the sources listed are superiors, colleagues, friends and family (Cieślak, 1995), which we adapted for teenagers. The questionnaire used here includes 8 items, each pertaining to all four sources of support: teachers, schoolmates, friends from outside school and family. Preliminary analyses indicated that the questionnaire is a reliable tool to measure support, (teachers $\alpha = 0,94$; schoolmates $\alpha = 0,92$; friends from outside school $\alpha = 0,89$; family $\alpha = 0,89$; Markiewicz, 2005). In all cases, higher scores indicate that the perceived social support was higher (scale from 1 to 5).

PROCEDURE

The teenagers filled out the questionnaires during their classes, with the teacher present in the classroom. The pupils were assured by the researcher and the teacher that they can participate in the study voluntarily and that there would be no consequences if they did not want to participate. The questionnaires were filled out according to instructions given in writing on each of the questionnaires. A general instruction presented on a separate sheet of paper, asking the students to fill out the questionnaires included also a space to indicate gender. Place of residence and age was coded by the researchers according grade and the school, where the study was conducted (Warsaw or Mielec).

RESULTS

The data were analyzed with the use of SPSS program. Firstly, they were cleared from all observations with missing values. The first table includes descriptive statistics.

Table 1. Descriptive statistics

	Younger adolescents					Older adolescents				
	<i>M</i>	<i>SD</i>	<i>α</i>	<i>Skew</i>	<i>Curt.</i>	<i>M</i>	<i>SD</i>	<i>α</i>	<i>Skew</i>	<i>Curt.</i>
ER	9,78	4.65	0.82	-0.15	-0.82	10.44	4.47	0.85	-0.21	-0.55
PA	3.32	0.73	0.82	-0.22	-0.36	3.19	0.71	0.84	-0.09	0.20
NA	2.06	0.79	0.89	1.01	1.01	2.15	0.79	0.89	-0.93	0.42
SAT	4.36	1.18	0.83	-0.13	-0.20	4.50	0.93	0.73	-0.34	0.14
SUP	3.54	0.53	0.90	-0.62	0.67	3.58	0.48	0.90	-0.45	-0.11
Teachers	2.61	0.84	0.90	0.06	-0.49	2.57	0.79	0.88	0.00	-0.43
Schoolmates	3.49	0.82	0.91	-0.49	0.11	3.19	0.85	0.92	-0.27	-0.06
Family	4.33	0.75	0.92	-1.60	3.16	4.42	0.59	0.88	-2.05	8.16
Friends	3.70	0.95	0.93	-0.64	-0.09	4.03	0.78	0.93	-0.88	1.00

Note: ER – emotional reactivity, PA – positive affect, NA – negative affect, SWL- satisfaction with life, SUP- general support, teachers- support from teachers, schoolmates – support from schoolmates, family – support from family, friends – support from friends other than schoolmates

Table 2. Correlations between main variables among younger teenagers

	1	2	3	4	5	6	7	8	9
1.ER	-	-0.22**	0.32***	-0.18*	-0.14	0.04	-0.15*	-0.04	-0.18*
2.PA		-	-0.07	0.40***	0.34***	0.11	0.20**	0.31***	0.24**
3.NA			-	-0.29***	-0.32***	-0.02	0.05	-0.05	-0.12
4.SWL				-	0.39***	0.15*	0.11	0.50***	0.21**
5.SUP					-	0.49***	0.64***	0.72***	0.65***
6.Teachers						-	0.08	0.31***	-0.09
7.Schoolmates							-	0.27***	0.33***
8.Family								-	0.25***
9.Friends									-

Note: ER – emotional reactivity, PA – positive affect, NA – negative affect, SWL- satisfaction with life, SUP- general support, teachers- support from teachers, schoolmates – support from schoolmates, family – support from family, friends – support from friends other than schoolmates

All questionnaires reached a satisfying level of reliability. The distributions suggest that the participants declared high well-being and high perceived social support, with indexes pointing towards the more positive end of the scale (high values for positive affect, satisfaction and support and low for negative affect). Preliminary analyses included computing correlations between the main variables, separately for the two groups of

teenagers. The results for younger adolescents are presented below.

Emotional reactivity was correlated with all SWB components – negatively with positive affect and satisfaction and positively with negative affect, which means that this temperament traits is not beneficial for SWB. It is also correlated with support from schoolmates and other friends – higher emotional reactivity means lower sup-

Table 3 Correlations between main variables among younger teenagers

	1	2	3	4	5	6	7	8	9
1.ER	-	-0.31***	0.35***	-0.40***	-0.14	-0.09	0.00	-0.04	-0.20*
2.PA		-	-0.09	-0.40***	-0.33***	0.17*	0.18*	0.28**	0.24**
3.NA			-	-0.35***	-0.15	-0.06	-0.02	-0.21*	-0.10
4.SWL				-	0.37***	0.22**	0.09	0.42***	0.22**
5.SUP					-	0.63***	0.66***	0.67***	0.56***
6.Teachers						-	0.27**	0.33***	0.01
7.Schoolmates							-	0.24**	0.13
8.Family								-	0.19*
9.Friends									-

Note: ER – emotional reactivity, PA – positive affect, NA – negative affect, SWL- satisfaction with life, SUP- general support, teachers- support from teachers, schoolmates – support from schoolmates, family – support from family, friends – support from friends other than schoolmates

port from these groups. There was no correlation between positive and negative affect but those two were correlated with satisfaction. Positive affect was positively connected to support from almost all sources (except teachers), and negative affect was negatively correlated only with general support. Satisfaction was correlated with most of the support (except for support from schoolmates). Most of the support indexes were weakly to moderately correlated with each other.

Correlations between main variables for older teenagers are presented in Table 3.

Among the older teenagers emotional reactivity was correlated with all three SWB component and with support from friends from outside the school. Also in this group high emotional reactivity meant decreased SWB and lower support. Again, positive affect was not correlated with negative affect but positively with satisfaction and all support indexes. Negative affect was correlated with support but only from the family (negatively). Satisfaction in turn, was connected to all support indexes, except support from schoolmates. Most of the support indexes were correlated except for support from friends from outside school, which was not connected with support from teachers and schoolmates.

The correlations indicate that SWB components are separate dimensions and in both groups positive and negative affect are not direct opposites. In both groups emotional reactivity was not beneficial for SWB, but there were differences between those two groups in its connections to support. Also, SWB components were correlated with support from different sources in each of the two groups of adolescents.

To answer question 1, we checked whether there were differences between age groups in the level of subjective well-being components. There were no significant differences in the level of positive affect, $t(314) = 1,54$, ns.; negative affect $t(314) = -1,01$, ns.; or life satisfaction $t(314) = -1,15$, ns. between younger and older teenagers. This, however does not mean that the underlying factors determining it are the same for the two groups of adolescents, so we checked whether emotional reactivity, support from different sources and their interactions were predictors of the SWB components in the two groups separately.

We conducted hierarchical regression analyses separately for each component of subjective well-being and separately among younger and older teenagers. First, all independent variables were

Table 4 Effects of ER, support from various sources and their interaction on SWB components – younger adolescents

Predictor	Positive affect				Nagetive affect				Satisfaction			
	ΔR^2	B	β	SE	ΔR^2	B	β	SE	ΔR^2	b	B	SE
Step 1. Controlled variables	0.02				0.01				0.02			
Step 2.	0.07*				0.13				0.06**			
RE		-0.15	-0.20**	0.06		0.30	0.36***	0.06		-0.24	-0.20*	0.09
Teachers		0.13	0.18*	0.06		-0.01	-0.02	0.06		0.21	0.18*	0.09
Cons.		3.64				1.775				5.062		
F		3.997**				6.337***				4.525**		
R_c		0.09				0.13				0.08		
Step 2.	0.07**				0.14***				0.04*			
RE		-0.12	-0.16*	0.06		0.32	0.39***	0.06		-0.22	-0.18*	0.09
Schoolm.		0.14	0.19*	0.06		0.10	0.13	0.06		0.07	0.06	0.09
Cons.		3.6				1.687				4.917		
F		4.20*				7.122***				2.442*		
R_c		0.09				0.13				0.06		
Step 2.	0.16***				0.13***				0.25***			
RE		-0.13	-0.18*	0.05		0.30	0.36***	0.06		-0.20	-0.17*	0.08
Family		0.26	0.36***	0.05		-0.02	-0.03	0.06		0.55	0.47***	0.08
Cons.		3.525				1.785				4.850		
F		9.306***				6.360***				14.947		
R_c		0.19				0.13				0.27		
Step 2.	0.09**				0.13***				0.06**			
RE		-0.11	-0.15^	0.06		0.30	0.37***	0.06		-0.19	-0.16*	0.09
Friends		0.17	0.23*	0.06		-0.00	-0.00	0.06		0.17	0.15	0.09
Cons.		3.413				1.782				4.809		
F		4.954**				6.321***				3.163*		
R_c		0.11				0.13				0.07		
N		169				169				169		

standardized. In the first step, controlled variables (gender and place of education) were introduced into the model, in the second step emotional reactivity and support from a particular source was introduced, in the third step the interaction

of emotional reactivity and support from a given source was introduced. The interactions were computed basing on standardized variables. The effects have been presented in Table 4. None of the interactions was significant in the group of

Table 5 Effects of ER, support from various sources and their interaction on SWB components – older adolescents

Predictor	Positive affect				Negative affect				Satisfaction			
	ΔR^2	B	β	SE	ΔR^2	B	β	SE	ΔR^2	b	B	SE
Step 1. Controlled variables	0.03				0.01				0.01			
Step 2.	0.10**				0.13***				0.20***			
RE		-0.21	-0.29***	0.06		0.29	0.36***	0.07		-0.37	-0.40***	0.08
Teachers		0.08	0.12	0.06		-0.05	-0.06	0.07		0.18	0.20**	0.07
Step 3. RE x Teach.	0.00				0.02				0.05**			
Cons.		3.084				-0.11 -0.13 0.07				0.21 0.23** 0.08		
F		4.483**								4.497		
R _c		0.13								8.610***		
Step 2.	0.14***				0.13***				0.17***			
RE		-0.21	-0.30**	0.06		0.29	0.37***	0.07		-0.39	-0.42***	0.08
Schoolm.		0.17	0.23**	0.06		0.01	0.02	0.07		0.09	0.10	0.08
Step 3. RE x school.	0.01				0.01				0.01			
Cons.		3.042				-0.06 -0.07 0.07				0.10 0.10 0.08		
F		6.219***								4.517		
R _c		0.17								6.942***		
Step 2.	0.16***				0.15***				0.27***			
RE		-0.20	-0.27**	0.06		0.28	0.36***	0.07		-0.36	-0.39***	0.07
Family		0.22	0.28**	0.07		-0.13	-0.15	0.07		0.33	0.32***	0.08
Step 3. RE x family	0.01				0.02				0.01			
Cons.		2.918				-0.13 -0.12 0.09				0.11 0.09 0.10		
F		7.301***								4.297		
R _c		0.19								11.704		
Step 2.	0.13***				0.13				0.18***			
RE		-0.17	-0.25**	0.06		0.29	0.37***	0.07		-0.35	-0.38***	0.08
Friends		0.16	0.23*	0.06		-0.00	-0.00	0.07		0.12	0.14	0.08
Step 3. RE x friends	0.04*				0.00				0.02			
Cons.		2.912				0.01 0.02 0.07				0.04 0.05 0.08		
F		6.093***								4.455		
R _c		0.20								7.726***		
N		131				131				131		

younger teenagers so results for the third step have not been displayed.

Positive affect was predicted by emotional reactivity and support from all sources. The most variance was explained when support from the family was taken into account (19%). Negative affect was predicted by emotional reactivity, and it explained 13% of the variance. Satisfaction was predicted by emotional reactivity, support from teachers (8% of explained variance) and emotional reactivity together with support from the family (27% of explained variance). Generally, among younger adolescents emotional reactivity is a predictor for all three components of SWB, regardless of which source of support is introduced into the model. It was not beneficial for SWB – it is a negative predictor for positive affect and satisfaction, and positive for negative affect. The configurations taking into account support from the family explained the greatest percentage of SWB variance (positive affect and satisfaction) and generally, support was either neutral or beneficial for SWB. None of the interactions proved to be significant predictors.

Among older adolescents positive affect was predicted by emotional reactivity together with support from schoolmates (17% of explained variance), family (19%), and other friends. In the model that included support from friends, the interaction between emotional reactivity and support proved to be a significant predictor (all the variables explained 20% of variance). The interaction has been presented in figure 1. It has been computed for values 1SD below and above average for both predictors. The scale of dependent variable was not changed in any way – the higher the score, the greater the positive affect.

The shape of the interaction computed for ± 1 SD of emotional reactivity and support from other friends suggests, that among people with lower emotional reactivity support from friends increases positive affect, but among people with higher reactivity this support does not bear meaning for positive affect. This would mean that emotional reactivity plays a moderating role between support from this source and positive affect. On the other hand, among

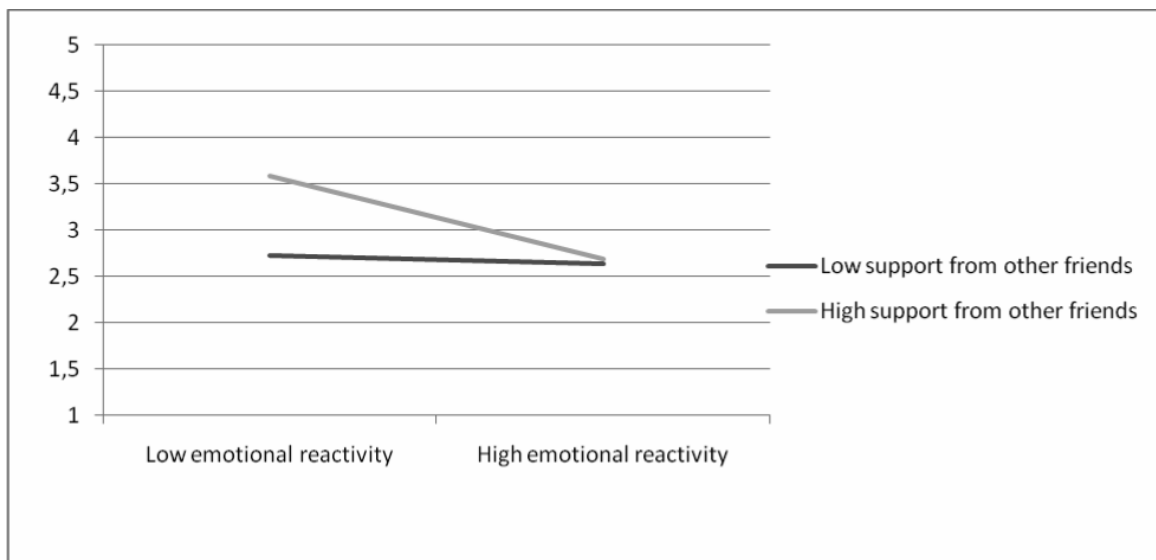


Figure 1. Positive affect among older adolescents: emotional reactivity interaction with support from other friends (± 1 SD)

people perceiving this support as high there are differences in positive affect between people with various levels of emotional reactivity – lower reactivity is connected to higher positive affect than higher reactivity. Among people perceiving this support as low, emotional reactivity seems not to have such effect. This means that support from friends can play a moderating role between emotional reactivity and support.

Negative affect was predicted only by emotional reactivity and it explained 14% of its variance. Satisfaction was predicted by emotional reactivity in interaction with support from teachers (26% of explained variance), emotional reactivity and support from schoolmates (18% of explained variance), family (27%) and other friends (19%). The interaction was computed for 1SD below and above mean for both predictors. Satisfaction scale was not changed in any way and it ranged from 1- low satisfaction to 7 – high satisfaction.

The shape of the interaction suggests that among older adolescents with higher reactivity support from teachers plays a significant role – higher support is connected to higher satisfaction and lower support with lower satisfaction. This effect is not visible for teenagers with lower reactivity, so it suggests that emotional reactivity plays a moderating role. On the other hand, among teenagers perceiving support from teachers as high, emotional reactivity seems not to differentiate the level of satisfaction, but it does when support from teachers is low (in the latter case higher emotional reactivity is connected to lower satisfaction).

The comparison of *beta* values of different predictors in the groups of younger and older adolescents shows, that for the positive affect emotional reactivity is a slightly stronger predictor in the group of older adolescents, but this effect is even more visible for satisfaction – *beta* values of emotional reactivity as predictor

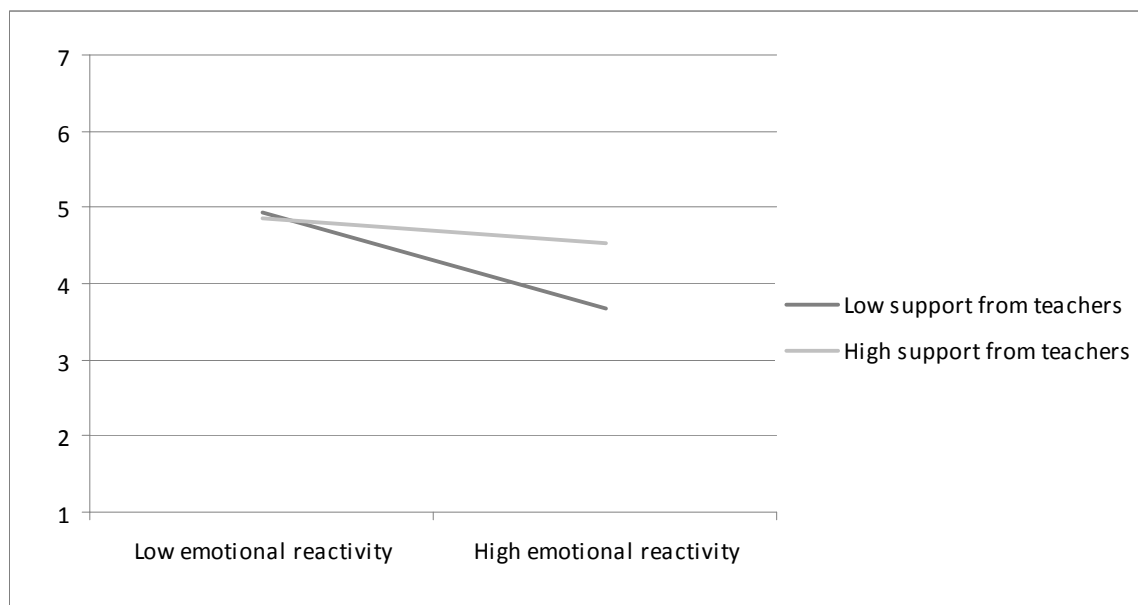


Figure 2. Satisfaction among older adolescents: emotional reactivity interaction with support from teachers (± 1 SD)

of satisfaction are twice as strong in the group of older teenagers (in comparison to younger).

DISCUSSION

In the article, we managed to answer some of the important questions pertaining to the effects of emotional reactivity and support from various sources on subjective well-being in two groups of teenagers. We demonstrated, that the patterns of relationships between emotional reactivity, social support and their interactions are different for different age groups.

We chose the Transactional Model of well-being as a basis for our study, which proved adequate for the research, since the pattern of results indicates, that the relationships between the included variables are indeed complex. What is more, the study clearly indicates, that the components of subjective well-being are related but separate dimensions and they are determined by different factors. As stated by Schimmack, Schupp and Wagner (2008):

The distinction between AWB [affective well-being] and CWB [cognitive well-being] is more than 30 years old (Campbell 1976; Diener 1984). However, the importance of this distinction is often ignored in the science of happiness. Often studies using different measures are treated as if they all measured a single construct—called SWB [subjective well-being] or happiness.

(p.54)

The study showed that there are no differences in three components of subjective well-being between younger and older teenagers (Q1). It would be, however interesting to see, the dynamic of subjective well-being throughout the entire life. Comparing the results from the present study with data from adults of different ages might show interesting patterns, especially if we take into consideration the dynamic of

emotional reactivity. There are, some existing studies on the relationship of the two components of subjective well-being, since researchers admit, that “with changing life circumstances individuals’ values shift in systematic ways and that these shifts may be accompanied by shifts in the determinants of their subjective judgments of well being” (Siedlecki, Tucker-Drob, Oishi & Salthouse, 2008). There is, however no systematic research that would take the complex interplay of temperamental and social factors into consideration. The lack of significant differences between younger and older adolescents does not mean that their SWB depends on the same factors, so further analyses were necessary to see if, apart from a similar level of SWB, there are any other differences in, e.g. the determinants of its components.

The effects of emotional reactivity (Q2) on subjective well-being turned out to be partly congruent with the functions and definition of this temperament trait. It is said, that emotional reactivity pertains mostly to emotional functioning, especially to negative emotions (Strelau, 2006). In our results emotional reactivity was a significant predictor of negative affect, but it was also a predictor of positive affect and life satisfaction (in both groups). However, careful examination of β values suggested that the prediction is strongest when it comes to negative affect. Moreover, in the variable set that we used in our study, emotional reactivity was the only predictor of this SWB component. For all significant predictions, emotional reactivity proved to be unbeneficial for SWB. It turned out, that high emotional reactivity was connected with decreased SWB, which means that individuals with higher scores on emotional reactivity scale are probably prone to experience life as more stressful, and they might engage in less social interactions due to their increased level of sensitivity and decreased resistance to emotional stimuli.

What is more, emotional reactivity was a stronger predictor of positive affect and

satisfaction in the group of older teenagers. *Beta* values of emotional reactivity as a predictor of positive affects increased, and in the case of predictions for satisfaction, they doubled. This effect may be interpreted in two ways. Firstly, the meaning of emotional reactivity may increase with age, which would be congruent with some data saying that the role of genetic factors increases with development (Plomin & Spinath, 2004). Secondly, the group of older teenagers represented a transitional period (Levinson, 1978), so a period of greater developmental efforts and stress. This may mean that emotional reactivity may be more significant for well-being in more challenging times. The two interpretations need further studies, especially ones including a sample of adults in different ages (also representing later transitional periods).

The most novel element of the study was the inclusion of support from various sources and their interaction with emotional reactivity (Q3 & Q4) and including age as a variable. As observed in other studies (Po Sen, Saucier & Hafner, 2010), support from the family turned out to be the strongest predictor of positive affect and life satisfaction in both age groups. This proves that for teenagers, it is the family, which is the main reference group and safety net. The results also indicate that support from other sources is important. For the positive affect, support from all groups was significant for younger adolescents but among older adolescents support from teachers was excluded from the list of significant predictors. This result is interesting especially when we take into account the level of perceived support from teachers. It is the lowest index in comparison to other sources, so it might be, that older adolescents learn to ignore this source because it is inefficient or inadequate. Younger adolescents probably do not have the ability to make that judgment, so they still rely on this source of support.

Analysing predictors of satisfaction indicated, that in both groups support from teachers and

family was significant (as well as emotional reactivity discussed above). It seems that for adolescents it is mostly grown-ups who are the main reference point for assessing satisfaction. It may be, that perceiving support from adults (although family might also mean siblings) gives young people a sense of security and allows them to better realize their potential, which in turn increases satisfaction. It might also mean, that adolescents judge their lives mostly on the basis of the quality of some of their relationships and that quality might be expressed in perceived support. The fact that it is the teachers and family who are of meaning here, may stem from these relationships being more stable than peers relations (Po Sen, Saucier & Hafner, 2010).

It is also interesting, that for the younger adolescents there were no interaction effects between emotional reactivity and support, but such effects were found in the group of older adolescents. The lack of interaction in the younger group might mean that younger students have not yet developed the ability to regulate their functioning according to their traits, so the interaction effects are connected with their development stage. As was stated, there were interactions in the group of older adolescents – positive affect was predicted by emotional reactivity in interaction with support from friends beyond school and satisfaction with support from teachers. Whether it is the emotional reactivity or the support that played the moderating role is not as essential as the fact that the relationship between those pairs of variables are quite complex. In the first interaction support plays a different function for people with low and high reactivity – among low reactive ones higher support from friends means greater positive affect but such effect is not observed for those with higher emotional reactivity. This means that emotional reactivity moderates support's function. This might mean, that for highly reactive adolescents there is no space for interaction, because their trait does not allow them to draw from their relationships to

a sufficient extent. One other effect was visible here – among people perceiving their support as high, emotional reactivity seemed to differentiate the positive affect, while such an effect was not observed for those perceiving their support as low. This would mean that support moderates the relationship between emotional reactivity and positive affect. In both cases, it seems that among older adolescents the most beneficial configuration is to have low reactivity and perceive the support from friend as high. Only when those two variables are at an optimal level, will the level of positive affect increase.

The second interaction effect – support from teachers with emotional reactivity – was significant for the level of satisfaction. Firstly, emotional reactivity might serve as a moderator between support and satisfaction, i.e. among people with lower reactivity, support seems not to play a role, but it does among people with higher reactivity. This would mean that people with higher reactivity are more susceptible to the changes in the level of support (lower support decreases their satisfaction). On the other hand, they might need more support, especially that it might reduce the stress that they feel more often than people with lower emotional reactivity. The people with lower emotional reactivity might simply not need the support to such an extent, and therefore, even when they see it as less available, they do not suffer from it as those who need it more (i.e. those with higher reactivity). Secondly, among people perceiving support from teachers as highly available emotional reactivity seems not to differentiate the level of satisfaction, but it does among those who see this support as less available. Probably, when the support is not available it does not shield from stress and does not reduce natural tendencies of highly reactive people to experience more negative states, and therefore emotional reactivity comes forward as the factor decreasing satisfaction. We can say, that high support from teachers buffer the negative effect of high emotional reactivity on

life satisfaction. In conclusion, the results of this study showed that between adolescents of different ages no significant differences in the level of SWB were detected, but the functions of emotional reactivity and support from different sources was different for each age group. There were some elements that were common, like the unbeneficial function of emotional reactivity for SWB, but it also turned out that this trait had specific functions among the older teenagers (interactions with support). It also turned out, that support plays a significant role for SWB but only for positive affect and satisfaction – the level of negative affect was determined only by emotional reactivity. The sources of support are, however, also important. As shown in previous studies, support from family was the strongest predictor, but other sources had specific meaning in a given age group and for a given SWB component.

LIMITATIONS OF THE STUDY

The study naturally has some limitations, that allow to draw only some conclusions and refrain from making broader generalizations. The first one, is that only two groups of adolescents were included in the sample. We hope, that the detected differences signal some of the differences connected with development, but naturally the study needs to be conducted on a bigger sample including teenagers of different ages and, if possible, comparing them to adults in various periods of their life. Obviously, since this was not a longitudinal study, it is impossible to say whether the observed effects are manifestations of the cohort characteristic or the characteristic of these particular stages of development.

The second drawback is that we employed a limited number of possible sources of support. In the future it would be useful to include also a boyfriend/girlfriend or a close friend as a possible source of support. We do not know, if this category was assumed by the participants to be included in the 'friends from outside school' category. This source of support might be especially important

in the case of older adolescents, who experience their first romantic relationships. The list of possible sources should thus be broadened in the future.

Furthermore, we included only one temperament trait, but it might also be good to include activity in future analyses. Since 'happy personality; (see introduction) constitutes of low neuroticism and high extraversion, and we know that emotional reactivity is correlated with neuroticism and activity with extraversion, they are both possible predictors of well-being.

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