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Coping strategies among adolescents: Israeli Jews and Arabs facing missile attacks

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The study examined the use of coping strategies among Israeli Jewish and Arab adolescents who faced missile attacks during the Second Lebanon War. We further explored the role of ethnicity, gender and age in explaining psychological distress and the ways in which different coping strategies relate to health outcomes in the two ethnic groups. Data were gathered from 303 Israeli adolescents (231 Jews and 72 Arabs), 12–19 years old, who filled out self-reported questionnaires among which were demographics; Adolescent Coping Scale, Scale of Psychological Distress (SPD), state anxiety and state anger. Both Jewish and Arab adolescents mostly used "problem solving" coping strategies and reported relatively low levels of psychological distress. Similarities among Jews and Arabs were indicated in the use of "problem solving" coping strategies but not in the use of "reference to others" – and "non-productive" coping strategies. Significant but small effects were indicated for gender and interaction of ethnicity and age on "psychological distress." The coping strategies explained only 35% of the variance of stress reactions for the Jewish group but 51% for the Arab group. The results are discussed against the background of an interactionist approach, considering coping as a function of interaction between the stressful war event and the individual–cultural background.

Keywords: adolescents; coping strategies; missile attacks; stress reactions; Israeli Jews and Arabs

Coping strategies among adolescents

Coping can be defined as the actual effort that is made in the attempt to render a perceived stressor more tolerable and to minimize the distress induced by the situation (Folkman & Lazarus, 1985). Adolescence is the period when personal styles and skills of coping are developed. It is during these years that the experience of using certain mechanisms of coping in contrast to other coping strategies can be reviewed, modified as needed and crystallized (Frydenberg, 1997). From puberty on, youth also develop more advanced cognitive and emotional skills, enabling them to gain perspective of others, plan ahead to see future consequences of an action and manage emotions more effectively. These abilities enable them to deal with sources of conflict, and threatening or stressful events in a variety of contexts (Garnefski, Legerstee, Kraaij, Van den Kommer, & Teerds, 2002; Xianchen, Jenn-Yun, &

Zhongtang, 2004). The goal of our research was to explore use of coping strategies among Israeli Jewish and Arab adolescents who faced missile attacks during the Second Lebanon War. A further aim was to find patterns in which coping strategies, ethnicity, gender, age were related to psychological distress reactions.

Frydenberg and Lewis (1993), following Lazarus and Folkman's (1984) classic division, suggested grouping coping strategies into the following: Strategies for "solving the problem" reflect working at the problem while remaining optimistic, fit, relaxed and socially connected. Other coping strategies such as worry, wishful thinking, not coping, ignoring the problem, tension reduction, keeping to oneself, self-blame, can reflect non-coping or helplessness and have been labeled "non-productive coping." A third dimension is related to "coping with reference to others" and includes strategies such as talking to other people about my concern; joining with people who have the same concern; and praying for help and guidance. Research results show that "emotion focused" or "avoidance" strategies (e.g., "non productive" and "reference to others") among adolescents tend to be associated with poorer adjustment and maladaptive outcomes while "problem focused" strategies or active coping tend to be linked to better well-being (Braun-Lewensohn et al. in press; Cardena, Dennis, Winkel, & Skitka, 2005; Zeidner, 2005).

Our study employs an interactionist approach, which considers coping as a function of the interaction between the situation and the individual background which may include ethnicity, gender and age (Folkman & Lazarus, 1985). This means that not only the stressful situation itself but also the individual background as well should be considered as a fundamental context which influences coping behavior and its health outcomes. According to this approach, cultural background, ethnicity, gender and age might play a major role in the selection of coping strategies (Chun, Moos, & Cronkite, 2006), as well as the situation itself.

Coping with political violence

Research in different domains of exposure to potentially traumatic experiences has shown that similar exposure does not necessarily lead to similar measures of psychological problems among individuals. Cultural differences, however, were found not to have a significant effect in a recent study which compared stress reactions of Jewish and Arab adolescents during an ongoing threat of terror attacks (Cohen & Eid, 2007). In turn, dynamic processes such as coping tend to function as strong moderators and mediators between stressors and their mental health outcomes in adolescence (Braun-Lewensohn et al., in press; Frydenberg, 1997; Zeidner, 2005). Regarding political violence, research among youth has found "non-productive" strategies of coping (such as self-blame, venting emotions) and "reference to others" as predictors of psychological problems, while "problem focused" strategies were found to be associated with fewer symptoms of emotional and behavioral problems including somatization or psychosomatic problems (Braun-Lewensohn et al., in press; Gil & Caspi, 2006; Lengua, Long, Smith, & Meltzof, 2005; Zeidner, 1993, 2005). On the other hand, other studies in the context of war indicated that non-productive coping such as avoidance and denial were sometimes effective strategies (Jones, 2002; Mulldoon & Cairns, 1999).

Coping behaviors of Jews and Arabs in Israel

Research of cultural influences on adolescents' coping behavior is sparse and not conclusive. Relatively few studies have compared adolescent coping across cultures (e.g., Frydenberg et al., 2003; Gelhaar et al., 2007). Much of the research has been done on adolescents in two or more countries and has assumed cross-cultural universality of coping behavior. However, in neglecting cultural influences one might miss a full understanding of behaviors, emotions and cognitions (Gelhaar et al., 2007).

A recent study which compared Jewish and Arab adolescents facing ongoing terrorist attacks found that coping strategies might have different meanings in different cultures. Sharing of feelings, for example, was related to higher distress only for Jewish adolescents but not for their Arab counterparts (Cohen & Eid, 2007). The inconsistencies among studies call for further research to examine which types of coping strategies are linked to adaptive or maladaptive outcomes in conflictual areas.

When investigating cultural influences much of the research has been based on the individualism–collectivism paradigm (Gelhaar et al., 2007). To this end, Arab youths still show more collectivist tendencies than Jews (Sagy, Orr, Bar-On, & Awwad, 2001) such as maintaining group membership and harmonious relationships with others (Oyserman, Coon, & Kemmelmeier, 2002). In spite of these tendencies, Arab-Israeli society seems to be going through a process of change by being more exposed to Western life (Oyserman, 2002).

Israeli Jews, on the other hand, have already adopted behavioral norms which characterize a Western society (Mikulincer, Florian, & Weller, 1993) and might focus more on self-fulfillment to promote their individual goals (Oyserman, 2006; Oyserman et al., 2002). These values and norms could be reflected in coping patterns and reactions to stress during stressful times of war. Thus, the findings could suggest that Arab adolescents who belong to a more traditional and collectivist oriented culture might turn more to strategies of "reference to others." It appears that a deeper investigation into a variety of coping strategies is needed in order to find out if they affect stress reaction differently among Jewish and Arab adolescents during period of severe political violence.

Coping across gender and age

Gender and age have been intensively studied across the stress and coping research in the context of political violence, as well. After 11 September, Wadsworth et al. (2004) found that female adolescents used more emotionally focused strategies than males. Moreover, these strategies were related to better functioning, but for girls only. Males, however, reported higher levels of disengagement responses. In general, girls are found to cope more often using social support, emotionally focused strategies, affective release or emotional regulation while boys' coping efforts are found to be directed toward gaining control over the situation (Hample & Petermann, 2005).

In the stress literature, age is considered to be a protective factor for maladaptive outcomes. However, contrary to the general literature, during long periods of political violence, older adolescents were found to report more stress

reactions compared to younger ones (Braun-Lewensohn, Celstin-Westreich, Celestin, Verte, & Ponjaert-Kristoffersen, in press; Solomon, Laufer, & Lavi, 2005). Regarding age and coping strategies, research results indicate that emotionally focused strategies develop with increasing age. Adolescents were found to use more strategies such as relaxation and distraction compared to younger children (Frydenberg & Lewis, 1993). Additionally, while young adolescents use more functional coping compared to older adolescents, emotional coping is used more by older adolescents. Still, results for problem-solving strategies are less conclusive. Some studies have reported that the ability to develop "problem solving" strategies such as direct action, support seeking, cognitive restructuring and decision making are developed during childhood while others have pointed to changes during adolescence (Donaldson, Prinstein, Danovsky, & Spirito, 2000; Seiffge-Krenke, 1993).

In the present study, we examine the role of gender and age in coping with the stressor of war. Girls are expected to be more vulnerable and to report more psychological distress. Since research results on age are not conclusive we have followed the latest patterns found, in which, due to constant exposure to political violence, age had a counter effect (Braun-Lewensohn et al., in press; Solomon et al., 2005). Thus, we expect older adolescents to be more vulnerable and report more psychological distress.

Research background

Our research was carried out among northern Israeli Arab and Jewish adolescents who had been exposed to more than one month of intensive missile attacks during July–August of 2006 (the Second Lebanon War). During that period, 3970 missiles were fired at Israel: 901 hit large cities, small towns, villages and communal settlements. Both Jewish and Arab communities were affected. The missiles killed 52 citizens (34 Jews and 18 Arabs) including children and adolescents and injured many more.

The Arab population of Israel is a minority of about 20% (90% of Israeli Arabs are Muslims) of the entire population (Almog & Horenstein, 2008). As a minority, they are excluded from political, social, economic and military power centers and perceive themselves as discriminated against on a cultural level (Rouhana & Ghanem, 1998). The political conditions during the war in summer 2006 left the Israeli-Arab society deeply confused. Like northern Israeli Jews, they were exposed to intensive missile attacks by Hezbollah.

Most of the Arab communities had no shelters and did not hear any sirens as an alert prior to falling missiles (Bavly, Raday, Dabush, & Eitan, 2007). These conditions placed the Arab population at a higher risk of being hurt and at additional risk for potential feelings of insecurity and endangerment. Indeed, Israeli-Arab adults estimated their self-risk as higher compared to Israeli-Jews immediately after the Second Lebanon War. Aware of their Arab identity, most of them opposed the war and were reluctant to punish and harm Hezbollah, despite the missile attacks (Benzion, Shaharabani, & Shavit, in press) and preferred to resolve the conflict by negotiation (Smooha, 2006).

To summarize, this study is based on an interactionist approach, which focuses on the interaction between person and environment (Folkman & Lazarus, 1985) in

order to investigate how a common collective dramatic stressful situation, such as war, initiates coping behaviors in two different ethnic-cultural groups living in the same attacked area. Since the interactionist approach highlights the importance of person–environment interaction, we assumed that the situation of war was vital for choice of coping strategies, but ethnicity, gender and age still had some influence on the way the adolescents cope with the situation.

We asked:

A. Is there a difference between Jews and Arabs, gender and age groups in their use of coping strategies during the war? Our hypothesis was that, considering the same stressful situation, most coping strategies would be used similarly in both Jewish and Arab groups. However, due to some culturally different norms, the coping strategies of "reference to others" which emphasizes collectivistic and traditional values, would be used more by Arabs. Regarding gender, following the literature, we hypothesized that girls would use more emotional coping which would be reflected in "reference to others" and "non productive" coping (Hample & Petermann, 2005; Wadsworth et al., 2004). In addition, older adolescents would tend to use more emotionally focused coping (Frydenberg & Lewis, 1993).

B. What is the role of ethnicity, gender and age in relation to health outcomes? Based on previous literature, no significant role was expected for ethnicity in its affect on health outcomes (Cohen & Eid, 2007). Additionally, we hypothesized that girls and older adolescents would tend to report more psychological distress (Braun-Lewensohn et al., in press; Solomon et al., 2005).

C. Would the different coping strategies affect health outcomes in the same way for Jewish and Arab adolescents? We hypothesized that "reference to others" would be related to better well-being in the Arab group but not in the Jewish group (Cohen & Eid, 2007). Regarding the other coping strategies, since we did not find specific literature which addressed this question, we based our hypothesis on the general coping and political violence literature. We hypothesized that while "problem solving" would be linked to better well-being, "non-productive" coping would be linked to poorer well-being (Braun-Lewensohn et al., in press; Zeidner, 1993, 2005).

Method

Participants

Three hundred and two teenagers living in northern Israel participated in the study: 230 Israeli-Jews and 72 Israeli-Arabs. Frequencies and percentages of demographic indicators of the two groups (age, gender, place of residency and parents' education) are described in Table 1. No inclusion or exclusion criteria were used apart from age (12–19).

Procedures

Data were collected by questionnaires during the Second Lebanon War (in August, 2006). The correspondent author and research assistants administered question-

Table 1. Demographic characteristics.

	Jews $N = 230$ (%)	Arabs $N = 72$ (%)
Gender		
Boys	32.2	52.1
Girls	67.8	47.9
Age		
12–15.5	52.8	32.4
16–19	47	67.6
Type of settlement		
City	46.3	20.8
Community towns and villages	33.1	78.8
Kibbutz	20.5	
Mother's education		
Didn't study or completed elementary school	2.3	14.5
High school	21.3	56.5
Non-academic diploma	20.8	14.5
Academic diploma	55	14.5
Father's education		
Didn't study or elementary school	3.3	12.9
High school	23.8	52.9
Non-academic diploma	22.4	15.7
Academic diploma	50.5	18.6

naires in summer camps which were organized by the Israeli Scouts and the Jewish Agency for young people from the north of Israel (approximately 140 questionnaires). Additionally, five Jewish adolescent girls were recruited and were supervised by the researchers to administer self-reported questionnaires to their peers in their homes or shelters (approximately 70 questionnaires). In one kibbutz settlement, the youth educator administered the questionnaires to the children (20 questionnaires).

Questionnaires were translated into Arabic by a PhD student from the Department of Education at the Ben Gurion University of the Negev. Arab youths were approached to fill out the questionnaires by two Arab MA and PhD students as well as by an Arab psychologist.

Similar administration procedures occurred across the different groups. The involvement of the administrators of the questionnaire was minimal and included only explanations of words which participants did not understand. Since questionnaires are frequently in use for adolescents, almost no such involvement was needed.

All participants were informed that the researchers were interested in their experiences, and anonymity was emphasized. Participation was voluntary, and permission from parents was received.

Response rate for our study variables ranged from 87 to 100%. For each scale those who did not fully complete the questions which were part of the scale were removed from the analysis.

Measurements

Adolescent Coping Scale (ACS)

Adolescent Coping Scale (ACS) (Frydenberg & Lewis, 1993) is an age appropriate instrument for measuring coping. The specific shortened version which was used in the current research allows for the measurement of responses to a particular administrated nominated concern. It is comprised of 18 items on a five-point scale, drawn from the 79 items which compose the original long version. Factor analysis was performed and three factors appear to correlate to those in the long form – "Problem Focused Coping," "Coping by Reference to Others" and "Non-Productive Coping." According to the manual, the three scales have sufficient internal consistency to justify their separate use. These three global scales discriminate quite satisfactorily and show moderate reliability as well as high correlations with the three global scales from the long version (Frydenberg & Lewis, 1993). Cronbach's alpha coefficient reliability for the different scales in our sample were: "problem solving" −.63; "reference to others" −.49; "non-productive coping" −.61.

Psychological Distress (SPD)

Psychological Distress (SPD) is a six-item psychosomatic symptom scale, referring to frequency of occurrence of familiar psychological symptoms. The scale was developed in Hebrew (Ben-Sira, 1979) and has been used in a number of studies with satisfactory psychometric properties (Ben-Sira, 1988). Five of the items are culled from Langer's psychological-equilibrium index (Langer, 1962): pounding heart, fainting, insomnia, headache and sore hands. The scale was elaborated by Sagy for use in a population of children (Sagy & Dotan, 2001). Some of the symptoms were modified (for example, stomachache instead of sore hands), and one item (nervous breakdown) was deleted. In this format, the questionnaire included five items and was scored on a scale of 1–4. In the present study, the Cronbach's alphas were .74.

State Anxiety

State Anxiety (Spielberger, Gorsuch, & Lushene, 1970, Hebrew translation; Teichman, 1978) was used in order to assess adolescents' anxiety. The Hebrew translation proved to be reliable, valid and equivalent to the English State Anxiety Inventory (Teichman, 1978). This scale consists of 11 items on a four-point Likert scale. Examples of questions are – I feel peaceful, I am afraid of disasters, I am worried, etc. The mean score was used and Cronbach alpha reliability was .87.

State Anger

State Anger (Spielberger et al., 1970, Hebrew translation; Teichman, 1978) was used in order to assess adolescents' anger. The Hebrew translation proved to be reliable, valid and equivalent to the English State Anger Inventory (Teichman, 1978). This scale consists six items on four-point Likert scale. Examples of questions are – I am angry, I want to scream at someone, I feel frustrated, etc. The mean score was used and Cronbach's alpha reliability was .81.

The adolescents also filled out a *demographic* questionnaire which included questions regarding their gender, age, parents' education, place of residency, and ethnicity (Jewish, Arab).

Results

Coping behaviors among Jews and Arabs

Table 2 shows differences between Jews and Arabs, gender and age groups on the coping scales, psychological distress, state anxiety and state anger.

Both Jewish and Arab adolescents used more positive "problem solving"coping and reported similar low levels of "psychological distress" and "state anger" when facing the stress of missile attacks. They also reported same medium level of "state anxiety." No significant difference appears on "problem solving" coping among the two groups. However, the other coping strategies of "reference to others" and "non-productive" coping were used significantly more by Arab youth. Regarding gender, the only significant difference appeared in "reference to others" with girls using these strategies more than boys. Among the age groups no significant difference appeared.

Effects of ethnicity, gender, and age on "stress reactions"

Between groups, analysis of variance was conducted to explore the impact of gender, age, ethnicity and interactions – gender*age, ethnicity*gender, ethnicity*age, ethnicity*gender*age on the different stress reactions.

For SPD there was a statistically significant main effect for gender ($F(1, 286) = 5.31$, $p = .02$); however, the effect size was small (eta squared $= .02$). An additional significant effect was obtained on the interaction ethnicity*age ($F(1, 286) = 4.93$, $p = .030$). Further exploration of the interaction effect revealed that among Jewish adolescents no significant age effect was revealed while among Arab adolescents older adolescents reported more "psychological distress" than their younger counterparts (young: $M = 1.71$, SD $= .61$; old: $M = 2.06$, SD $= .65$ $F(69, 1) = 4.85$ $p = .03$). It should be noted that in this case, as well, the effect size was small (eta squared $= .02$). The other main and interaction effects were not significant: ethnicity ($F(1, 286) = .34$, $p = .56$), age ($F(1, 286) = 2.14$, $p = .15$), ethnicity*gender ($F(1, 286) = 2.10$, $p = .15$), gender*age ($F(1, 286) = .11$, $p = .74$) and ethnicity*gender*age ($F(1, 286) = .75$, $p = .39$).

For state anxiety, there was significant effect for gender ($F(1, 258) = 6.63$, $p = .01$); however, the effect size was small (eta squared $= .02$). Neither the other variables nor the interactions had any significant effect. Ethnicity ($F(1, 258) = .11$, $p = .74$); age ($F(1, 258) = 1.42$, $p = .23$); ethnicity*gender ($F(1, 258) = 3.64$, $p = .06$); gender*age ($F(1, 258) = .82$, $p = .37$); ethnicity*age ($F(1, 258) = 2.60$, $p = .11$); ethnicity*gender*age ($F(1, 258) = .06$, $p = .81$).

For state anger, there was no significant effect to the different variables or to the interactions. Ethnicity ($F(1, 279) = .33$, $p = .57$); gender ($F(1, 279) = .32$, $p = .57$); age ($F(1, 279) = .01$, $p = .92$); ethnicity*gender ($F(1, 279) = 2.88$, $p = .09$); gender*age ($F(1, 279) = 1.77$, $p = .18$); ethnicity*age ($F(1, 279) = 1.40$, $p = .24$); ethnicity*gender*age ($F(1, 279) = .28$, $p = .60$).

Table 2. Differences between culture, gender and age groups on oping and outcome scales.

	Jews		Arabs			Boys		Girls			Young		Old		
	M	SD	M	SD	t-Value	M	SD	M	SD	t-Value	M	SD	M	SD	t-Value
Coping scales															
Problem solving	54.31	13.92	56.03	12.23	−.90	54.14	13.41	55.15	13.60	−.61	54.60	13.70	54.91	13.39	−.19
Reference to others	45.14	15.67	53.03	16.02	−3.57***	43.88	17.17	48.90	15.36	−2.53*	45.76	15.93	48.16	16.35	−1.25
Non-productive coping	44.63	11.15	49.46	11.68	−3.06**	44.37	12.09	46.64	11.00	−1.59	44.47	11.41	46.94	11.32	−1.80
Outcome scales															
Psychological distress	1.90	.68	1.93	.66	−.42	1.71	.61	2.03	.69	−3.96***	1.92	.66	1.90	.69	.31
State anxiety	2.45	.66	2.47	.63	−.23	2.22	.66	2.59	.71	−4.70***	2.45	.62	2.45	.68	−.06
State anger	1.82	.68	1.88	.65	−.68	1.80	.71	1.86	.67	−.74	1.88	.69	1.80	.67	.93

*$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

Evaluation of the path analysis model

We used AMOS 5.0 (Arbuckle & Wothke, 1999) with maximum likelihood estimation to test the hypotheses that the different coping strategies would predict stress reactions. We used multi-group analysis to compare the effect of the different coping strategies in each group (Jewish and Arab adolescents). For each scale of the three coping strategies the mean was computed separately and used as a manifest variable. For stress (the dependent variable) a latent variable was created using the three dimensions of stress reactions as indicators (i.e., state anxiety, state anger and SPD).

Model fit to the data were assessed using the ratio of chi-square to degrees of freedom (χ^2/df), incremental fit index (IFI; Bollen, 1989), comparative fit index (CFI; Bentler, 1990), and root mean square error of approximation (RMSEA; Browne & Cudeck, 1993). Acceptable fit is indicated by a χ^2/df ratio of two or less (Carmines & McIver, 1981), IFI and CFI equal to or greater than .90, and RMSEA less than .08 (Browne & Cudeck, 1993; Hoyle, 1995). The indices were adequate for the overall model $-\chi^2_{(12)} = 25.7$, $p < .01$; χ^2/df $= 2.14$; CFI $= .96$; IFI $= .96$; RMSEA $= .06$ (Figures 1 and 2).

Overall, the different coping strategies were linked to stress reactions in the same direction in both groups. In both groups "problem solving," "reference to others," and "non productive coping" had a significant contribution to the explanation of "stress reactions." While "problem solving" was negatively linked to "stress reactions," "reference to others" and "non productive coping" were positively linked to this variable. However, meaningful differences were also found. First, the overall variance explained for the Arab group was higher (51%) than the Jewish group (35%). Furthermore, comparison of effects of the different coping strategies on stress was examined by comparison of a nested model. Thus, equality constrain among groups was assigned for each effect allowing comparison of the constrained model fit to the free model fit. Marginal statistical difference was found for "problem solving" ($X^2_{(13)} = 29.3$); $\triangle \chi^2(1) = 3.6$; $p = .057$, where the strength of the relations was stronger for the Arab group. As for the other coping strategies, it should be noted that, although, not statistically significant, the same pattern appeared with "reference to other" ($X^2_{(13)} = 26.7$); $\triangle \chi^2(1) = 1$; $p = .32$ and "non productive coping" ($X^2_{(13)} = 27.5$); $\triangle \chi^2(1) = 1.8$; $p = .18$ having a stronger effect for the Arab group compared to the Jewish group with regard to "stress reactions."

Discussion

Our study aimed to examine how adolescents from different ethnic-cultural backgrounds, gender, and age groups cope with a common stressful event of facing attacks of missiles. We further aimed to investigate the role of ethnicity, gender and age in relation to stress reactions and how the different coping strategies related to mental health outcomes in two different ethnic groups: Jews and Arabs who are citizens of Israel.

First, we will discuss the question of the various coping strategies used by Israeli Jewish and Arab adolescents during the Second Lebanon War. The two groups were living in the same area, but belonged to two different ethnic-cultural groups. The
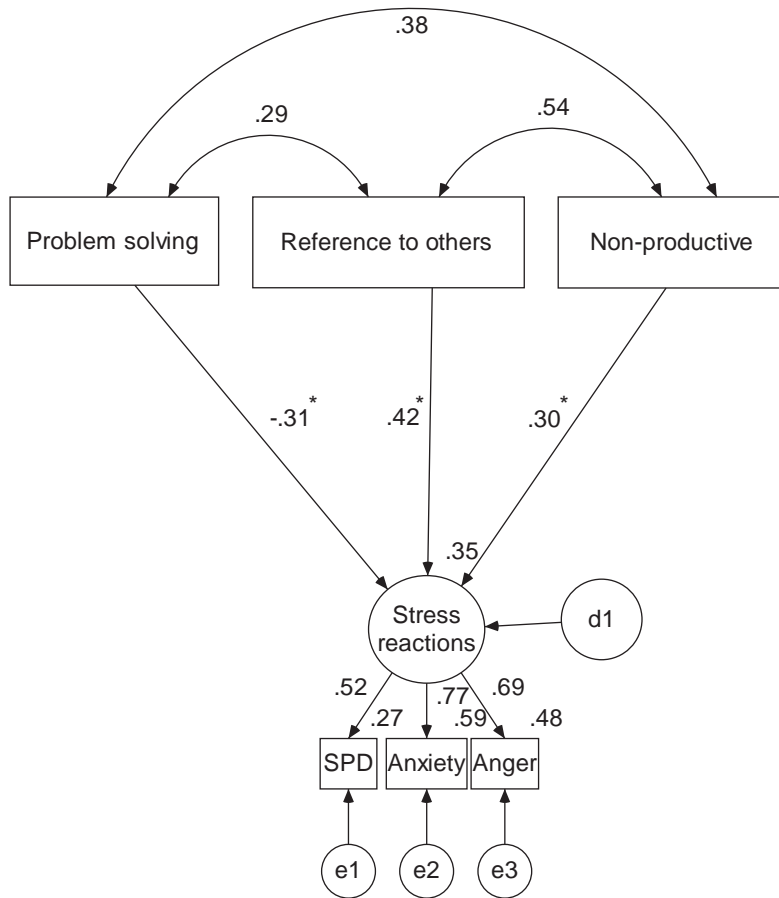
Figure 1. The relationships between coping strategies and stress reactions: Results of path analysis for Jewish adolescents exposed to missile attacks.

situation seemed to be the same: a stressful state of war lasting for more than a month. However, employing an interactive approach led us to consider not only the unique situation but also the different ethnic backgrounds of the respondents as well. Following such an approach, our hypothesis was that, overall, Israeli Jewish and Arab adolescents would show more similarities than differences in their use of coping strategies. Our results partially support this hypothesis. The "problem solving" coping was used with the highest intensity in both groups. Out of the three coping scales examined, Jewish and Arab adolescents used "problem solving" coping with the same intensity.

These results could highlight the importance of the situation in the interaction formula. The common situation of war, despite the differences in terms of conditions and ethnic identity, led the two groups of adolescents to mostly similar reactions. These similarities, however, could also reflect the closeness of the two cultures of Israeli Jews and Arabs who live in the same area and who are citizens of the same state. Research examining adolescents from both ethnic groups indeed indicate a
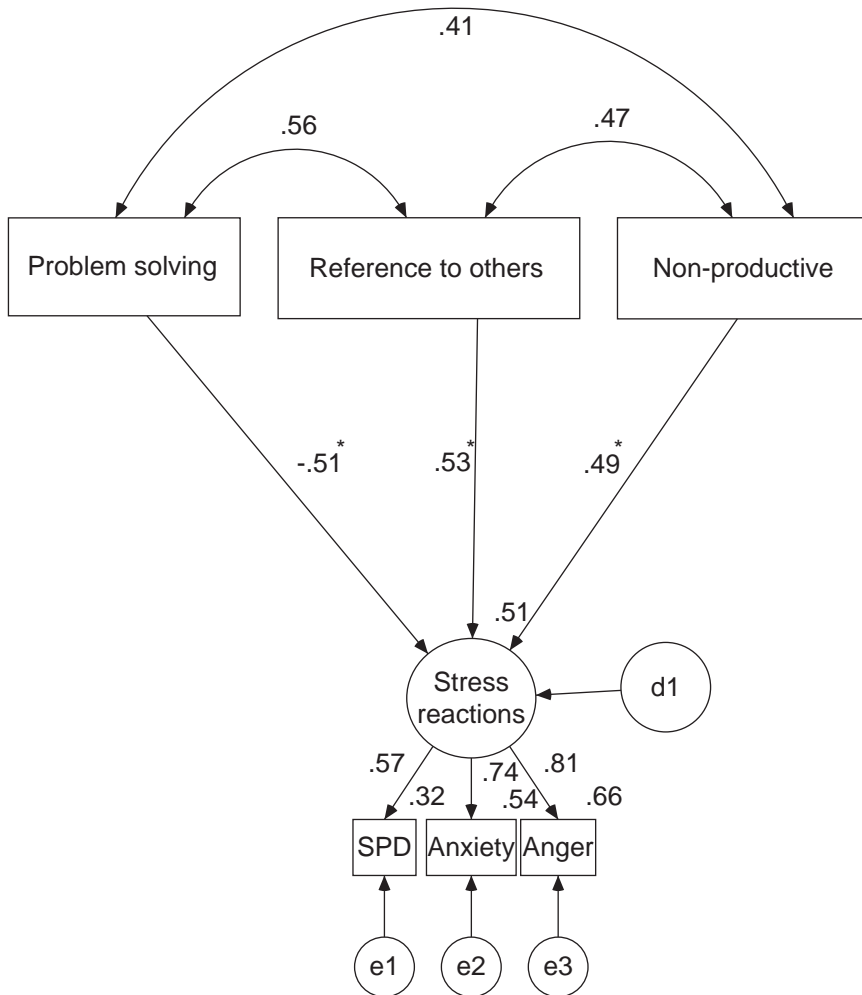
Figure 2. The relationships between coping strategies and stress reactions: Results of path analysis for Arab adolescents exposed to missile attacks.

tendency over time toward more similarity than differences in various domains, such as values of collectivism and individualism (e.g., Oyserman, 2006; Sagy et al., 2001). Moving toward individualistic values, problem solving seems to be the prevalent way of coping. Our results are also supportive of previous research, which found similar uses of coping strategies across cultures (e.g., Olah, 1995) and specifically between Jews and Arabs in northern Israel (Cohen & Eid, 2007).

Despite the similarities in "problem solving," differences emerged, as well, with regards to other coping strategies. "Reference to others" and "non-productive" coping were used more by Arab than by Jewish adolescents. These coping strategies which include sharing feelings, praying and maintaining group harmony seem to reflect more collectivist than individual norms which still characterize Arab culture (Oyserman et al., 2002).

Overall, our study could indicate some kind of interaction between the war situation and the different cultural backgrounds of the adolescents. Although, the Israeli Arab adolescents coped mostly in a similar way to their Jewish counterparts, using "problem solving strategies" to the same extent, the cultural background still had some influence on the choice of strategies. This is shown in the other strategies of "reference to others" and "non-productive coping" which were used differently by the two groups.

We further hypothesized that girls and older adolescents would use more emotional coping strategies, which are termed here as "reference to others" and "non-productive." Similar to other studies in the political violence literature (e.g., Wadsworth et al., 2004), girls in both groups of our study coped by using more emotional coping strategies, such as social support (termed here by "reference to other" coping). Regarding the age effect, contrary to our expectations, we did not find differences between the age groups in their use of coping strategies.

Our second question related to the role of ethnicity, gender and age in explaining mental health outcomes. It is noteworthy that both Jewish and Arab adolescents reported relatively low levels of "stress reactions" and no significant difference was found between the two groups on the different mental health outcomes. This finding once again highlights the same stressful situation of missile attack as well as the closeness and the similarities between these two ethnic-cultural groups.

Regarding gender, as we expected, girls reported more stress reactions of "state anxiety" and "psychological distress" compared to boys. As for age, we found that among Arab adolescents, the older teenagers reported more "psychological distress" compared to younger ones. It seems that in our study, older Arab adolescents had a similar reaction to adult Arab citizens during stressful times of political violence, in which they reported more distress compared to their Jewish neighbors following terrorist attacks (Hobfool, Canetti-Nissim, & Johnson, 2006). This result also supports other studies in the context of political violence in which minority groups report more distress than the majority population (Hoven et al., 2002; Pfefferbaum et al., 1999).

Third, we investigated the way in which coping strategies relate to "stress reactions" separately for each ethnic group. Similarities were found between Jewish and Arab adolescents in the way the different strategies were linked to "stress reactions." While "problem solving" decreased "stress reactions" of the youngsters, "reference to others" and "non-productive" coping increased "stress reactions." However, despite of the general similarity in the relations between coping and psychological distress, meaningful differences emerged as well. Overall, the coping strategies had more explanatory power for the Arab adolescents group compared to their Jewish counterparts. More specifically, each coping strategy had a stronger link with "stress reactions" among the Arab group compared to the Jewish group. Additionally, contrary to our hypothesis, we found that "reference to others" did not decrease "stress reaction" for the Arab group or for the Jewish one.

In general, it seems that for the Jewish youth, the acuteness of the situation was dominant in explaining the outcome of "stress reactions" and decreased the effects of individual characteristics on "stress reactions." Similar findings were found in studies among Israeli adolescents facing acute stress situations (Sagy, 1998; Sagy & Antonovsky, 1986; Sagy & Braun-Lewensohn, in press). For the Arab adolescents, in turn, their coping behavior which could be explained by their cultural background

had more explanatory power in explaining psychological distress. Moreover, it is possible that the individual ways of coping play a major role in understanding the health outcome when one is part of a minority group, which suffers not only from the acuteness of the situation but also from identity confusion, during a political violent conflict.

To summarize, our study supports the interactionist approach and emphasizes the importance of the situation as well as the ethnic-cultural background of the individual when coping with an acute situation of war and missile attacks. Indeed, we found a strong trend toward similarities between the Arab and Jewish adolescents in the use of the prevalent coping of solving problems. We also found similarity between the two groups in levels of "stress reactions" and in the general pattern of relationships between the coping strategies and health outcomes. However, some significant differences between the two ethnic groups emerged as well. While the acute situation appeared to overwhelm Jewish adolescents and thus, decrease the relations between individual ways of coping and mental health outcomes, for the Arab adolescents, individual characteristics such as age and use of collective oriented coping strategies played a meaningful role in explaining their psychological distress. These results could be explained by their cultural background as well as on the political situation of belonging to a minority group in a conflictual region.

Study limitations

The present research is clearly exploratory in nature and the findings should be considered with appropriate reservations. Our data were collected in the midst of a war and during missile attacks. Therefore, the samples are neither representative nor random but rather consist of youngsters whom we were able to reach during such a difficult time. Thus, some degree of potential sample bias should be taken into account. Apparently, the distribution according to socio-demographic criteria was not sufficient. For example, the Jewish sample included a higher percentage of girls than boys. Moreover, although, young people's self-reports are generally a reliable source of information about their stress experiences, a multi-informant paradigm could enhance the data. Finally, in the absence of a base rate for the participants' psychological distress prior to the study period, we cannot state with certainty whether or not the observed outcomes are due solely to the impact of the war.

In spite of these limitations, the importance of this study is in its being a field research carried out in the midst of the stressful situation of war and severe missiles attacks. The unfortunate conflictual violent situation in the area serves as a "natural laboratory" for investigation which is essential for studying human behavior (Lazarus, 1982). Future designs should include longitudinal studies that are better suited to an evaluation of cause–effect relations. Such designs can contribute not just to the research base but also to prevention and intervention programs for youths who have to cope with political violence and wars.

Conclusion

To conclude, our study supports the interactionist approach in which both the stressful situation and the individual ethnic background have effects on health outcomes. It appears that during acute stress situations, such as war, the situation

itself is crucial in understanding the stress health outcomes (Sagy, 2002). However, for unique special groups (like minorities), individual characteristics of ethnicity, gender and age could play a role as well (Gelhaar et al., 2007).

Our research is clearly exploratory in nature and the findings should be considered with appropriate reservations. In order to get a deeper understanding of our explorative findings, future studies should evaluate use of coping strategies and their results in other stressful situations, across cultures and in longitudinal designs.

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