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# Personal and Social Factors Related to Readiness to Take Risks While Driving Among Adolescents: Comparing Majority and Minority Groups in Israel

Khader Agbaria<sup>a</sup>, Adi Mana<sup>b</sup>, Hillel Bar-Gera<sup>c</sup>, and Shifra Sagy<sup>d</sup>

a Corresponding author  
Martin Springer Center  
of Conflict Studies,  
Ben Gurion University of  
the Negev,  
P.O. Box 653, Beer  
Sheva, 84015  
Israel  
Agbaria00@walla.co.il

b Peres Academic Center  
Shimon Peres St 10,  
Rehovot 7608805  
Israel  
manna.adi@gmail.com

c Ben Gurion University of  
the Negev,  
P.O. Box 653, Beer  
Sheva, 84015  
Israel  
bargera@bgu.ac.il

d Martin Springer Center  
of Conflict Studies,  
Ben Gurion University of  
the Negev,  
P.O. Box 653, Beer  
Sheva, 84015  
Israel  
shifra@bgu.ac.il

Data among adolescents around the world reveals higher tendency among adolescents from minority groups to engage in risk taking behavior while driving than among majority groups (Hilton, 2006). We examined the relationships between several individual and collective coping resources which can explain behavioral intentions towards driving and readiness to take risks while driving among Jewish and Arab teenagers in Israel. The resources examined were two general salutogenic resources of personal and national sense of coherence. The study was conducted in 12 schools in northern Israel, 442 Arab (201 males) and 356 Jewish (199 males) students participated. As expected, the tendency to take risks while driving and the perception of driving as a challenge were lower among the Jewish (majority) than among the Arab (minority) teenagers. Correlations were found between some coping resources (sense of coherence and sense of national coherence) and readiness to take risks while driving. The findings suggest that sense of coherence at the personal and national level may serve as an important factor associated with behavioral intentions and risk-taking tendencies among young people, especially those from minority groups.

**Keywords:** behavioral intentions towards driving, readiness to take risks while driving, risk taking while driving, Israeli Arab and Jewish youth, salutogenic approach

## Introduction

Adolescence is a sensitive developmental stage during which one moves from dependency on the family toward openness to the outside world and greater influence by the peer group (Romeo, 2013; Spear, 2013). In this period personal resources increase, and cognitive and emotional processes develop. However, the capability to suppress emotional responses and to make a proper and rational response in risk situations is strongly dependent on positive environmental cues (Casey and Caudle, 2013). Thus, the tension between personal coping resources that enable one to regulate behavior when faced with challenging situations and the sensitivity to positive environmental cues also increases in this period (Taubman – Ben-Ari, Mikulincer, and Iram, 2004). Moreover, this tension could be stronger for adolescents from underprivileged minority groups, who live within a complex social environment (Factor et al., 2013). Studies from all over the world indicate that adolescents, especially males, who are members of underprivileged minority groups, are involved in risk behaviors more than members of the majority group (e.g., Porter and England, 2000; Shinar and Compton, 2004).

This study sought to find the coping resources, at the personal and group level, that can explain the tendency of adolescents from both minority and majority groups to take risks while driving. While previous studies (e.g., Elfassi, et al., 2016; Sagy, Shani, and Leibovitz, 2009) employed the salutogenic approach, they mainly focused on health risk behaviors (such as smoking, drug use, drinking). The current study compared the tendency of adolescents from majority and minority groups to take risks while driving. This specific risk behavior occurs in a joint social sphere of both minority and majority groups (the roads) and therefore, we expected that the potential mismatch between the social norms of the adolescents' ingroup with the social norms of the outgroup (the national social norms), could be more powerful for underprivileged minority adolescents as compared to adolescents from the majority group. The research question was explored in the context of the ongoing national conflict between the Jewish majority and Arab minority within Israel.

### *Risky driving in the context of majority-minority relationships*

Data from a number of studies indeed reveals that there is a significant difference between minority and majority groups in behaviors and attitudes related to road safety (Bergdahl, 2007; Campos-Outcalt et al. 2003; Hilton, 2006). Previous studies revealed that the tendency towards risky driving is a collective phenomenon and ethnic minority group members are often more likely to engage in risky driving behavior compared to the majority group in their societies (Factor et al., 2013). For

example, in the U.S., immigrants have been found to have the highest probability of risky driving behavior (Vivoda and Kostyniuk, 2004).

Similar results were found in Israel. Of 310 drivers aged 15-19 who were involved in fatal accidents in 2007-2017, 50.3% were Arabs (Arabs are a minority – comprising about 20% of the overall population of Israel), while of 788 drivers aged 20-24, 52.7% were Arabs (National Road Safety Authority, 2018). Of all young drivers injured on inter-urban roads between 2007 and 2015, the proportion of young Arab drivers ranged from 37% to 47% (National Road Safety Authority, 2016). Baron-Epel et al. (2008) found that disobeying laws, human error, and reckless driving are responsible for the high rate of involvement in road accidents among Arabs who are Israeli citizens. This tendency is stronger among adolescents, and especially among the males in this population (Shinar and Compton, 2004).

The research literature offers a variety of personal and social explanations for the disparities in risky driving behavior between minority and majority members. Social factors related to the discrepancy between the majority and minority as a source for the tendency towards risky driving include, for example, the minority's tendency to engage in a risk behavior as a form of everyday resistance and as a rejection of the majority group (Factor et al., 2013). Personal factors, however, can also be related to various cognitive and emotional aspects of risky behavior. Examples include a tendency for risk seeking, the individuals' perceptions and beliefs about himself/herself, and the beliefs about the consequences of his/her behavior (Eherenfreund-Hager and Taubman –Ben-Ari, 2016)).

Thus, this study joins existing studies that seek to understand the higher tendency among adolescents, especially young males from the minority group, to be involved in road accidents.

### **The research variables:**

#### *The tendency to engage in risky driving behaviors and perceptions of dangerous driving as a threat or as a challenge*

In the current study we explored two different attitudes towards driving: perceptions of dangerous driving as a threat (dangerous driving is a threat to the driver's own safety) and perceptions of dangerous driving as a challenge (Taubman – Ben-Ari et al., 2004). Perceiving risky driving as a threat means that the driver perceives it to have the potential to cause harm. Not surprisingly, it was found that a lower perception of the negative consequences among young drivers was associated with a higher frequency of reckless driving, while those who perceived risky driving more as a threat reported engaging in it less frequently (Taubman – Ben-Ari et al., 2004). On the other hand, perceiving risky driving as a challenge means that the driver perceives performance of this behavior to have positive consequences,

such as affording a sense of control, thrill, and sensation. Indeed, young drivers who viewed risky driving as challenging reported a higher frequency of reckless behavior on the road (Taubman – Ben-Ari et al., 2004). Based on the salutogenic approach we ask what the personal and collective coping resources are related to the tendency of risky driving behavior.

This study explored the personal and collective coping resources that could be related to the avoidance of risky driving.

Sense of Coherence - Antonovsky (1979) suggested sense of coherence (SOC) as a major personal coping resource that promotes health and wellbeing. SOC is defined as a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one in order to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement (Antonovsky, 1979). Studies on adolescents have indicated that during adolescence SOC may play a protective role similar to that of the mature adult SOC especially in predicting better healthy behaviours (Carlén, 2020). Many studies over the last 40 years have confirmed the relationships between strong SOC and healthy behaviours, while a weak SOC has been associated with unhealthy and risky behavior (Eriksson and Mittelmark, 2017). For example, SOC was found to be related to negative attitudes toward alcohol use and drug abuse among high school students (Elfassi et al., 2016; Sagy, Shani, and Leibovich, 2009), while a weak level of SOC was found among drug addicts (Chen, 2009). A weak level of SOC was also found among children (Efrati-Virzer and Margalit, 2009) and adolescents (Nilsson et al., 2007) who displayed interpersonal violence and antisocial behaviors.

As far as we know, the relationship between SOC and risky driving behavior has been neglected in salutogenic oriented studies.

Sense of National Coherence - Since the specific context of the current study is the ethnic-national conflict between the Jewish majority and the Arab minority in Israel, we also explored sense of coherence at the national level. Similarly to SOC, the sense of national coherence (SONC, Sagy, 2015, Mana et al., 2019) integrates three components: **Comprehensibility**—the perception that life in one's national group is predictable, safe, and secure and the perception of one's national group actions as comprehensible and logical. **Manageability**—the perception that one's nation can assist its members, is available to them, and meets their demands and needs. Manageability is also related to the levels of confidence, trust, and satisfaction with the national institutions and systems Lastly, **Meaningfulness**—the perception that the nation gives meaning to its members by providing challenges,

goals, vision, and a shared destination. Recent studies in the period of COVID-19 revealed that higher levels of both SOC and SONC were related to better mental-health among people from different countries (Mana and Sagy, 2020; Mana et al., 2121). However, higher levels of SONC were also related to the tendency to reject the outgroup collective narratives and to adhere to those of the ingroup (Mana et al., 2019). Therefore, it seems that SONC may promote healthy behavior of not taking risks while driving but may also be more affected by the group status (minority or majority) and by their level of trust in the national authorities.

*Perception of self-efficacy* is defined as the degree to which the individual believes in their ability to perform a specific behavior or series of behaviors that leads to a given outcome (Bandura, 1997). Previous studies revealed that people high in perception of self-efficacy report taking more risks on the road (Taubman – Ben-Ari, 2004) and greater involvement in traffic accidents (Taubman – Ben-Ari, 2008). This tendency was stronger among adolescents: for them driving plays a major role in defining self-esteem (Taubman – Ben-Ari et al., 1999). Adolescents who perceive driving to be highly relevant to self-esteem have been found to engage in more reckless driving, while those for whom it is less relevant choose other means of enhancing self-esteem (Taubman – Ben-Ari et al., 1999). On the other hand, evidence was found for the other direction, and adolescents with high feelings of appreciation and faith in their abilities, adopt careful driving habits (Miller and Taubman – Ben-Ari, 2010).

*Perceived social pressure to perform a given behavior:* An individual responds to the group culture and is influenced by group processes and norms concerning issues such as responsibility, friendship, the value of life, and the attitude toward risk-taking (Taubman – Ben-Ari and Katz – Ben-Ami, 2013), as well as to media messages that encourage risky driving (Beullens, Roe, and Van den Bulck, 2011). Thus, the driving culture of the young driver's environment could influence the manner in which they choose to drive (Hakkert et al., 2001).

*Trust in the police:* Trust in the national authorities was found in previous studies to be related to the tendency of ethnic minorities to engage in risky driving (Ehrenfreund-Hager and Taubman – Ben-Ari, 2016; Factor et al., 2013). Factor et al. (2013), claimed that engaging in high risk behaviors is an act of resistance by which minority group members demonstrate their willingness and ability to defy the country and the majority group. These high-risk behaviors enable the minority group members to express their dissatisfaction with their status, and to demarcate the limits of the majority group's power. They create a boundary that signals to the majority group that their control over the individual has its limits (Factor et al., 2013). Factor et al. (2013) explored this question to understand the involvement of Arabs in Israel and indeed found relationships between lack of identification with the Israeli state and the Arabs' mistrust in the police. Therefore, we expected

trust in the police, to mediate the relationships between the factors that promote healthy behavior of non-risky driving (SOC, SONC, self-efficacy, perceptions of subjective norms), and the tendency to take risks while driving.

## The research hypotheses

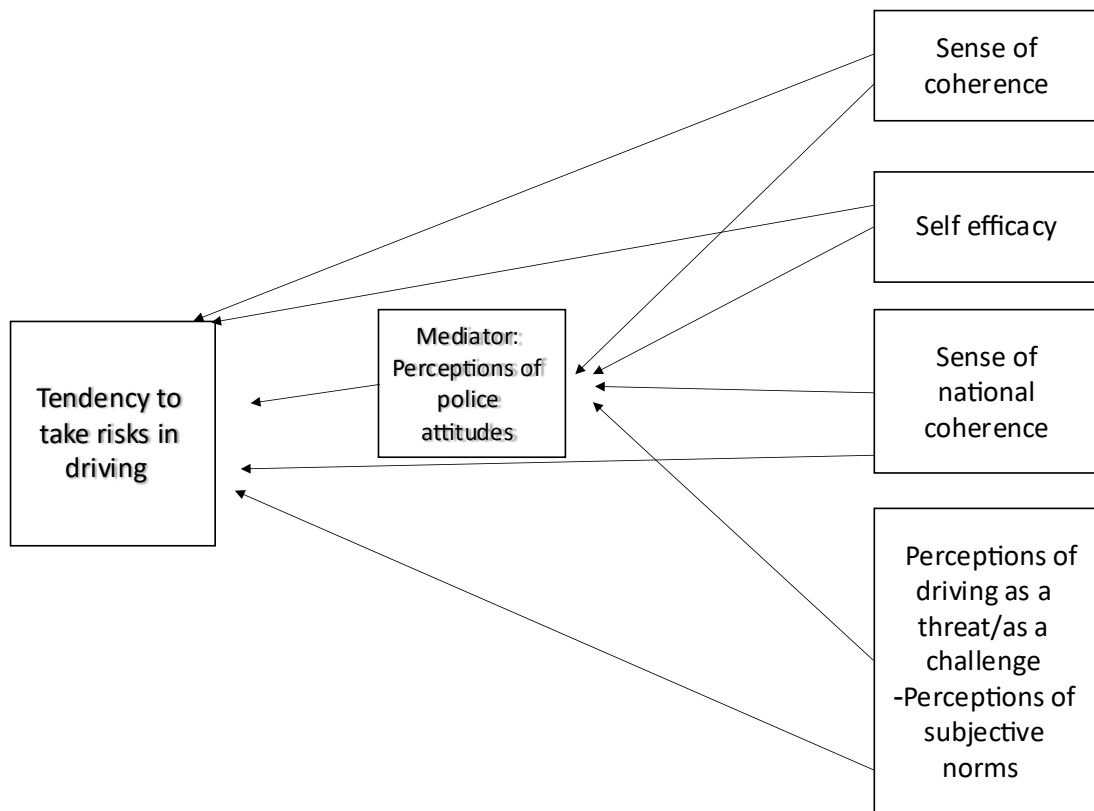
### *Group differences*

1. We expected to find differences between the Arab and the Jewish participants: We expected that the Arab participants would take more risks while driving as compared to the Jewish participants and that they would perceive driving as more challenging and less threatening as compared to the Jewish participants' perceptions. In addition, we expected that the Jewish participants would tend to perceive the social norms regarding following the rules to drive with lower risk as stronger and to perceive the police as acting more fairly and equitably, as compared to the Arab participants. We also expected that the levels of the salutogenic factors of SOC and SONC would be higher among the Jewish participants as compared to the Arab participants.
2. We expected to find gender differences in both Arab and the Jewish samples: We expected that the tendency of females to take risks while driving would be lower, that they would perceive driving less as a challenge and more threatening, and that they would perceive stronger social norms regarding following the rules in order to drive with low risk, as compared to males in both groups.
3. We expected that higher levels of SOC, SONC, perceived subjective norms, perceived self-efficacy, and perceived driving as a threat, would be related to lower tendency to take risks while driving among both groups, while we expected perception of driving as a challenge would be related to a higher tendency to take risks while driving among both groups.
4. We expected perception of police attitude to mediate the relationships between the independent variables (SOC, SONC, perception of driving as a threat or as a challenge, self-efficacy, and perception of subjective norms) and the dependent variable (tendency to take risks in driving). The higher the tendency to perceive the police as just, the lower the relationships between the factors and the tendency to take driving risks (see figure 1).

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**Figure 1:** The research model
 

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## Method

### Participants

The participants were 12th grade pupils studying in 12 different schools in community settlements in the northern part of Israel. A total of 798 students were sampled, including 442 Arab students and 356 Jewish students. No significant differences were found between the Arab and Jewish groups in the variables of gender (201 boys, 241 girls; 199 boys, 157 girls, accordingly), age ( $M=18$ ,  $SD=0.30$ ;  $M=18.13$ ,  $SD=0.37$ , accordingly), obtaining a driving license (about 21% among Arabs and about 15% among Jews), and in socio-economic status, as measured by numbers of rooms in the house, and number of cars ( $M=5.77$ ,  $SD=2.10$ ,  $M=2.14$ ,  $SD=1.21$ ;  $M=5$ ,  $SD=1.36$ ,  $M=1.82$ ,  $SD=0.93$ , for Arabs and for Jews ).

## Measures

The study instrument comprised structured and self-reported questionnaires that were back translated (Tyupa, 2011) from Hebrew to Arabic, according to accepted translation rules.

### ***The tendency to take risks while driving (Taubman – Ben-Ari et al., 1999)***

The questionnaire measures the tendency to respond recklessly and dangerously in various driving scenarios (driving through a red light, driving at a high speed in a bad mood). It includes 10 short stories describing contradictory driving situations. For example: “You're on your way to a weekend off. A slow truck is driving ahead of you. A continuous white separation stripe separates the lane you are traveling on and the opposite lane. What are the chances, in your opinion, that you will overtake the slow vehicle?”

The scale consists of 11 values, ranging from zero (0%) to 10 (100%), which represent the percentage of chance that the respondent will take a driving risk. Taubman – Ben-Ari et al. (1999) report a high level of consistency ( $\alpha = .80$ ). For this study, minor changes were made, in coordination with the authors, in some of the short stories in both versions in order to adapt them to the age and culture of the respondents. The general index of alpha in our study was 0.90. Alpha in the Hebrew version was 0.86, and in the Arabic version it was 0.90.

### ***Sense of Coherence (SOC-13, Antonovsky, 1979)***

The 13 items, on a 7-point Likert scale, explore the participants' perceptions of the world as comprehensible, meaningful, and manageable. The  $\alpha$  values in former studies using SOC-13 range from 0.70 to 0.92 (Eriksson and Mittelmark, 2017) and in this study the  $\alpha = 0.72$ , in the Hebrew version and in the Arabic version it was  $\alpha = 0.67$ .

### ***Sense of National Coherence (SONC, Mana, Srour, and Sagy, 2019)***

The 8 items on a 7-point Likert scale (1= totally agree, 7= totally disagree) explore the participants' perceptions of his/her own society as comprehensible, meaningful, and manageable. Internal consistency of the questionnaire was estimated at 0.80 (Mana et al., 2019) and in the current study  $\alpha = 0.75$  in the Hebrew version, and  $\alpha = 0.63$  in the Arabic version.



***The perception of driving as a threat questionnaire (Taubman – Ben-Ari et al., 2004)***

8 items, on a 6-point Likert scale (1= not at all, 6= to a very great extent) each item describing an example of dangerous behavior such as driving through a red light. For each item, the subject must answer to what extent he or she believes that this behavior endangers the driver; to what extent he or she estimates that it may cause a road accident; and to what extent he or she feels anxiety or pressure while performing this behavior. Internal consistency of the questionnaire was estimated at 0.90 (Arnfreund-Hagar, 2012) and in the current study  $\alpha = 0.89$  in the Hebrew and the Arabic versions.

***The perception of dangerous driving as a challenge questionnaire (Taubman – Ben-Ari et al., 2004)***

8 items, on a 6-point Likert scale (1= not at all, 6= to a very great extent). Subjects were asked to indicate how much they experience challenge, excitement, or pleasure when performing risky driving behaviors (for example; driving through a red light). A previous study by Taubman – Ben-Ari and colleagues (2004) found  $\alpha = 0.94$ . The questionnaire was then translated into Arabic according to accepted translation rules. Our study found that the general index of  $\alpha = 0.91$ . Alpha in both versions, Hebrew and Arabic, was 0.89.

***The perception of self-efficacy in driving questionnaire (Taubman – Ben-Ari, 2008)***

19 items, on a 7-point Likert scale (1= not at all, 6= to a very great extent). The items examine the relationship between self-efficacy in driving and dangerous driving. Each item described a particular driving scenario that requires coping skills, such as “when you are in a hurry,” and subjects are asked to assess their own ability to handle the situation effectively. A previous study by Taubman – Ben-Ari et al. (2008) found  $\alpha = 0.93$  and in the current study  $\alpha = 0.95$  in the Hebrew version and 0.89 in the Arabic version.

***The perception of subjective norms (Elliott et al., 2003)***

3 items on a 7-point Likert scale: “People who are important to me would like me to drive without taking risks in the near future” (strongly disagree – strongly agree); “People who are important to me (very strongly oppose – very strongly encourage) my driving without taking risks in the near future”; “People who are important to me think that I (do not need – very much need) to follow the rules in order to drive without taking risks in the near future.” Averaging the scores of these three items provides the score for the subjective norms index. A previous

study by Arnfreund-Hagar (2012) reported an alpha of 0.84, and in the current study  $\alpha = 0.73$  in the Hebrew version and  $\alpha = 0.67$  in the Arabic version.

### ***Perception of police attitude (Factor et al., 2013)***

The Driving Resistance Questionnaire (DRQ) (Factor et al., 2013) includes measurement scales which have been applied in a variety of studies. In the study by Factor et al. (2013), the examination of perceptions regarding police attitude is based on the ladder of procedural justice; to what extent the police act fairly and equitably. These perceptions are estimated in a shortened three-item version of the questionnaire (Rattner and Yagil, 2004) in which alpha in the Hebrew version was 0.79, and in the Arabic version it was 0.81. Our study found that the general index of alpha was 0.79. Alpha in the Hebrew version was 0.78, and in the Arabic version it was 0.81.

### ***Socio-demographic variables***

Demographic information (gender, age, socioeconomic status, obtaining a driving license, and nationality) were collected.

### **Procedure**

The data were collected during one lesson during a school day. The participants were told that the goal of the research was to examine their attitudes towards driving. The students received questionnaires in their native language (Hebrew or Arabic). The questionnaires were distributed to all students who were present in class on the day of data collection. The average time to complete the questionnaire was 45 minutes.

### ***Ethical considerations***

Approval was obtained from the ethics committees of the Ministry of Education as well as from the school principals and the parents. The researcher provided complete information about the study and explained the students' right to decide on their own whether to participate in the research. The anonymity of the participants was guaranteed, and no identifying data was collected in the questionnaire.

## **Results**

### **Testing the research hypotheses**

To test the first hypothesis related to the differences between Jews and Arabs, t-test analyses were conducted (see table 1). The results confirmed the first hypothesis: the Arab participants significantly tended to take more risks while driving as

compared to the Jewish participants. The Arabs participants also significantly tended to perceive driving as more challenge and less threatening as compared to the Jewish participants.

The salutogenic factors of SOC and SONC were significantly higher among the Jewish participants as compared to the Arab participants. In addition, the Jewish participants significantly tended to perceive the social norms regards following the rules in order to drive without risk as stronger and also perceived the police actions as significantly fairer and more equitable as compared to the Arab participants.

**Table 1:**

Differences in the means of the study variables by group

| Variable                             | Mean Jews | SD Jews | Mean Arabs | SD Arabs | t         |
|--------------------------------------|-----------|---------|------------|----------|-----------|
| Sense of personal coherence          | 4.48      | .89     | 4.20       | .92      | ***4.34   |
| Perception of driving as a threat    | 4.32      | 1.15    | 3.70       | 1.39     | ***6.85   |
| Self-efficacy concept                | 4.40      | 1.30    | 4.17       | 1.31     | *2.44     |
| Perception of subjective norms       | 6.40      | 1.02    | 5.18       | 1.71     | ***12.54  |
| Perception of driving as a challenge | 1.76      | .95     | 2.73       | 1.32     | ***11.72- |
| Perception of police attitude        | 2.69      | 1.06    | 2.47       | 1.15     | **2.91    |
| Sense of national coherence          | 4.40      | 1.06    | 3.67       | 1.00     | ***10.12  |
| Tendency to take risks in driving    | 25.27     | 18.77   | 40.01      | 23.21    | ***9.95-  |

Sample sizes are: n=356 (Jews) and n=442 (Arabs)

\*p < 0.05, \*\* p < .01, \*\*\* p < .001

To test the second hypothesis related to gender differences, t-test analyses were conducted (see table 2). The results confirmed our research hypothesis; we found that the tendency to take risks while driving and the perception of driving as a challenge were higher among males than females, and that these differences were found both in the Jewish sample and in the Arab sample. Accordingly, the perception of driving as a threat was higher among females than males for Jews and Arabs alike. Female from both research groups also perceived stronger social norm towards non-risky driving behavior. Differences between the groups were found according to self-efficacy. While the self-efficacy of the Arab females was higher than that of the Arab males, the opposite direction was found in the Jewish

sample and self-efficacy of the Jewish females was lower than that of the Jewish males.

**Table 2:**  
Differences in the means of the study variables by gender

| Variable                             | Range of answers | Arabs: M |        | SD    |        | t        | Jews: M |        | SD    |        | t        |
|--------------------------------------|------------------|----------|--------|-------|--------|----------|---------|--------|-------|--------|----------|
|                                      |                  | Male     | Female | Male  | Female |          | Male    | Female | Male  | Female |          |
| Sense of personal coherence          | 1-7              | 4.20     | 4.20   | 80.   | 1.01   | 04.      | 4.5     | 4.44   | 91.   | 88.    | 79.      |
| Perception of driving as a threat    | 1-6              | 3.22     | 4.10   | 1.27  | 1.34   | ***7.04- | 4.09    | 4.60   | 1.17  | 1.06   | ***4.26- |
| Self-efficacy concept                | 1-7              | 4        | 4.31   | 1.20  | 1.39   | *2.52-   | 4.55    | 4.21   | 1.26  | 1.32   | *2.44    |
| Perception of subjective norms       | 1-7              | 4.97     | 5.34   | 1.66  | 1.73   | *2.29-   | 6.28    | 6.59   | 1.11  | 87.    | **2.70-  |
| Perception of driving as a challenge | 1-6              | 2.91     | 2.58   | 1.30  | 1.31   | *2.59    | 2.03    | 1.48   | 1.01  | 76.    | ***5.76  |
| Perception of police attitude        | 1-3              | 2.43     | 2.49   | 1.15  | 1.14   | 5.21-    | 2.62    | 2.78   | 1.05  | 1.03   | 1.45-    |
| Sense of national coherence          | 1-7              | 3.74     | 3.60   | 96.   | 1.03   | 1.44     | 2.78    | 4.2    | 1.10  | 97.    | 1.96     |
| Tendency to take risks in driving    | 1-11             | 49.74    | 31.97  | 20.71 | 22.09  | ***8.66  | 30.24   | 18.9   | 20.56 | 13.94  | ***6.17  |

\*p < 0.5, \*\* p < .01, \*\*\* p < .001

Sample sizes are: n=356 (**Jews**):157 Female, 199 Male; n=442 (**Arabs**): 241 Female, 201 Male

### ***The multi-dimensional model***

For the first step of testing the hypotheses related to the suggested model, we conducted correlation analyses between the research variables in each research group. The results, presented in table 3 revealed that, as predicted, among the participants from both groups tendency to take risks while driving was related to lower level of SOC, higher level of perceiving driving as a threat, lower level of perceiving driving as a challenge, and higher level of perceiving police as acting justly. Among Arabs, the tendency to take risks while driving was negatively related to self-efficacy. Among both groups no relationships were found between the tendency to take risks while driving and SONC. Group differences were found

in the relationships between the independent factors: higher levels of SOC among the Jewish participants were related to higher levels of perceiving driving as a threat and to lower levels of perceiving driving as a challenge, higher level of perception of subjective norms and perceptions of police as acting justly. For the Arabs, SOC was negatively related to the tendency to take risks in driving.

**Table 3:**  
Pearson correlation matrix between study variables by nationality

| Variable                             | Perception of driving as a threat |       | Self-efficacy concept |        | Perception of subjective norms |        | Perception of driving as a challenge |        | A sense of national coherence |       | Perception of police attitude |        | Tendency to take risks in driving |        |        |
|--------------------------------------|-----------------------------------|-------|-----------------------|--------|--------------------------------|--------|--------------------------------------|--------|-------------------------------|-------|-------------------------------|--------|-----------------------------------|--------|--------|
|                                      | Jews                              | Arabs | Jews                  | Arabs  | Jews                           | Arabs  | Jews                                 | Arabs  | Jews                          | Arabs | Jews                          | Arabs  | Jews                              | Arabs  |        |
| A sense of coherence                 | .12*                              | .05   | .01                   | .07    | .27***                         | .09    | -.14**                               | .19*** | .15                           | .16** | .21***                        | .15**  | .29***                            | -      | .22*** |
| Perception of driving as a threat    | -                                 | -     | .02                   | .31*** | .26***                         | .23*** | -.07                                 | -.09   | .07                           | .07   | .22***                        | .02    | -.24***                           | -      | .36*** |
| Self-efficacy concept                | -                                 | -     | -                     | -      | .08                            | .21*** | .04                                  | .02    | .02                           | .11*  | -.04                          | .06    | .01                               | -      | .18*** |
| Perception of subjective norms       | -                                 | -     | -                     | -      | -                              | -      | -.09                                 | -.16** | .06                           | .13** | .22***                        | -.01   | -.29***                           | -      | .27*** |
| Perception of driving as a challenge | -                                 | -     | -                     | -      | -                              | -      | -                                    | -      | .11*                          | .05   | -.10*                         | -.01   | .39***                            | .23*** |        |
| A sense of national coherence        | -                                 | -     | -                     | -      | -                              | -      | -                                    | -      | -                             | -     | .19***                        | .12*** | -.01                              | -.03   |        |
| Perception of police attitude        | -                                 | -     | -                     | -      | -                              | -      | -                                    | -      | -                             | -     | -                             | -      | -.24***                           | -.10*  |        |

\*p < 0.05, \*\* p < .01, \*\*\* p < .001

Sample sizes are: n=356 (Jews) and n=442 (Arabs)

### ***Mediation Model***

In the second step we examined the hypotheses related to the suggested model by conducting a mediation model (Hayes, 2013). The findings presented in table 4 and figure 2 revealed that for both Arab and Jewish participants, perceptions of the police attitudes as just mediated the relationships between the salutogenic factors of SOC and SONC and the tendency to take risks while driving. However, the mediating effect is partial in the case of SOC and there is a full mediation effect only in the relationships between SONC and the tendency to take risks while driving.

As expected, the Jewish sample’s perceptions of the police attitudes as just also mediated the relationships between the other independent factors (perception of driving as a threat or as a challenge and perception of social norms and the tendency to take risks while driving). In the Arab sample no mediating effect was found. The results partly confirm our suggested model.

**Table 4:**

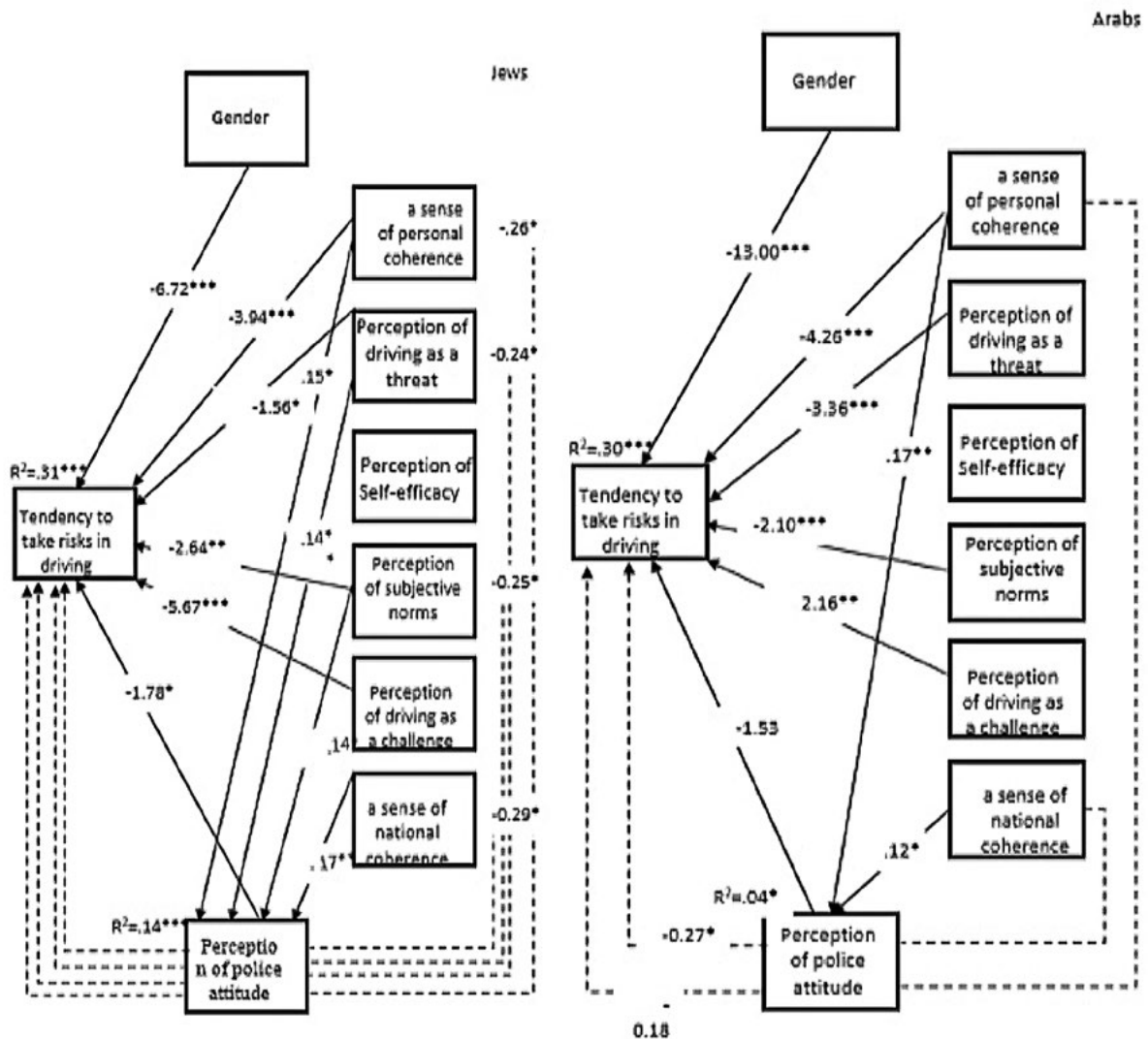
Regression coefficients, direct and indirect effects between the independent variables (SOC, SONC, perceiving driving as a threat or as a challenge, self-efficacy and perceive social norms) and the tendency to take risks in driving (dependent variable) through the perception of police attitude (mediator variable) in each of the samples.

| Independent                          | Independent<br>→ Mediator | Mediator<br>→ Dependent | Independent<br>→ Dependent | Indirect effect  | 95% CI<br>Indirect effect |
|--------------------------------------|---------------------------|-------------------------|----------------------------|------------------|---------------------------|
| <b>Jews</b>                          |                           |                         |                            |                  |                           |
| Sense of personal coherence          | 0.15*<br>(0.06)           | -1.78*<br>(0.85)        | -3.94***<br>(1.00)         | -0.26*<br>(0.19) | [-0.85,<br>-0.02]         |
| Perception of driving as a threat    | 0.14**<br>(0.05)          | -1.78*<br>(0.85)        | -1.56*<br>(0.78)           | -0.24*<br>(0.16) | [-0.64,<br>-0.01]         |
| Self-efficacy concept                | -0.05<br>(0.04)           | -1.78*<br>(0.85)        | -0.09<br>(0.65)            | 0.09<br>(0.09)   | [-0.02,<br>0.37]          |
| Perception of subjective norms       | 0.14*<br>(0.06)           | -1.78*<br>(0.85)        | -2.64**<br>(0.89)          | -0.25*<br>(0.16) | [-0.68,<br>-0.02]         |
| Perception of driving as a challenge | -0.09<br>(0.06)           | -1.78*<br>(0.85)        | 5.67***<br>(0.93)          | 0.15<br>(0.16)   | [-0.05,<br>0.63]          |
| Sense of national coherence          | 0.17**<br>(0.05)          | -1.78*<br>(0.85)        | -0.08<br>(0.82)            | -0.29*<br>(0.18) | [-0.81,<br>-0.02]         |
| <b>Arabs</b>                         |                           |                         |                            |                  |                           |
| Sense of personal coherence          | 0.17**<br>(0.06)          | -1.53<br>(0.82)         | -4.06***<br>(1.06)         | -0.27*<br>(0.18) | [-0.73,<br>-0.00]         |
| Perception of driving as a threat    | -0.00<br>(0.05)           | -1.53<br>(0.82)         | -3.36***<br>(0.76)         | 0.00<br>(0.08)   | [-0.11,<br>0.21]          |
| Self-efficacy concept                | 0.05<br>(0.05)            | -1.53<br>(0.82)         | -0.53<br>(0.76)            | -0.07<br>(0.01)  | [-0.36,<br>0.04]          |
| Perception of subjective norms       | -0.04<br>(0.03)           | -1.53<br>(0.82)         | -2.10***<br>(0.58)         | 0.06<br>(0.07)   | [-0.02,<br>0.29]          |
| Perception of driving as a challenge | 0.02<br>(0.04)            | -1.53<br>(0.82)         | 2.16**<br>(0.74)           | -0.03<br>(0.08)  | [-0.29,<br>0.07]          |
| Sense of national coherence          | 0.12*<br>(0.06)           | -1.53<br>(0.82)         | 0.37<br>(0.96)             | -0.18*<br>(0.14) | [-0.57,<br>-0.004]        |

\*p<.05, \*\*p<.01, \*\*\*p<.001

**Figure 2:**

Indirect effects through the perception of police attitude on the tendency to take risks in driving in the Arab and Jewish samples.



$p < .05$ ,  $p < .001$ ,  $p < .001$

## Discussion

The tendency to take risks while driving among majority and minority adolescents who are living in the context of a conflict zone can be influenced by personal, social, and national factors. The current study explored this tendency in the context of Jewish majority and Arab minority teenagers who are citizens of Israel.

We explored the role of sense of coherence as a main salutogenic factor that promotes attitudes towards the healthy behavior of driving safely. Additional

personal cognitive-emotional coping resources that are relevant to the context of driving behavior (perception of driving as a threat or as a challenge, perception of self-efficacy, and perceptions of subjective norms), were examined as well as perception of collective coping resources of sense of national coherence. Perceptions of police attitudes as just were examined as mediator factor.

The first hypothesis was confirmed. The tendency to take risks while driving and the perception of driving as a challenge was lower among young Jews than young Arabs while the perception of driving as a threat was higher among the Jewish participants as compared to the Arab participants. Other differences that were found were that the Jewish participants' self-efficacy related to their higher ability to handle dangerous driving situations effectively as compared to the Arab participants. These findings are well represented in the accumulated data related to the high level of disobeying laws, human error, and reckless and hostile driving among the Arab population in Israel (Baron-Epel et al., 2008; Taubman – Ben-Ari, 2008).

Interestingly, the current study revealed that those tendencies are significant from the very early stages of driving experience during adolescence. Moreover Jewish and Arab participants' perceptions differed in their perceptions of social environment. It seems that for Arab participants the social environment is perceived as more encouraging to risky driving as compared to the perceptions of Jewish participants. While their closed social circles were perceived as encouraging risky driving, the police were perceived as acting unjustly. These findings could reflect the way Arab adolescents perceive risky driving as a form of resistance behavior (Factor et al., 2013).

Moreover, the salutogenic factors of sense of coherence and sense of national coherence were weaker among the Arab teenagers, and they tended to perceive the global world and their national group as less comprehensible, meaningful, and manageable, as compared to the Jewish participants. These findings support previous studies which revealed that the Arab minority has a weaker SOC as compared to their Jewish majority counterparts (e.g. **Sagy, 2014**). This finding could be explained by the weaker general resilience resources among the Arab population in Israel. Young Israeli Arabs live in an unstable environment as members of a disadvantaged minority in terms of the allocation of resources, government representation, the labor market, and many other areas (Samooha, 2015). Any possibility of improving their present or future situation is uncertain. This reality can limit them from gaining the rich consistent life experiences and personal involvement in decision-making that contribute to a strong SOC and SONC.



Regarding gender differences, as expected, we found that females in both research groups were less likely to take risks while driving, perceived driving as more threatening and less as a challenge, and perceived stronger social norms towards non-risky driving behavior, as compared to males. These findings replicated previous findings related to gender differences in driving and the tendency of males to be more involved in risky driving as compared to females, as well as the tendency of females to be more likely to see a vehicle as a resource for mobility (Lerner et al., 2010) rather than a thrill-seeking tool.

Unexpected gender differences were found between the groups in the self-efficacy measures. While the self-efficacy of the Arab female was higher than the Arab male, the opposite direction was found in the Jewish sample: self-efficacy of the Jewish female was lower than that of the Jewish male. This finding is interesting since the position of Arab women in Israel is diminished on two levels: women have lower status than men in Arab society and Arabs have lower status than Jews in Israeli society (Zaatut and Haj-Yahia, 2016). Current research, however, is revealing that this situation is gradually changing, mainly among the young generation and this study's results reflect these changes as well (Gabaren, 2020). Additional research is needed to explore the gender differences.

The main aim of the current study, however, was to suggest a mediating model in which we explore the role of coping resources, cognitive and emotional factors, and the mediating factor of perception of police attitudes in predicting the tendency to take risks while driving among minority and majority group members. The results revealed that perceiving the world as well as the national group as comprehensive, manageable, and meaningful promotes attitudes towards healthy behavior of non-risky driving. However, while in both groups SOC directly predicted the tendency to take risks and the mediating effect was partial, there were no direct relationships between SONC and the tendency to take risks. Indeed, among both groups these relationships are significant only after adding perceptions of police attitudes. In addition, group differences were found between the research groups between the salutogenic factor and the other factors. It seems that among both groups, perception of the global world (SOC) or the national group (SONC) as comprehensive, manageable, and meaningful related to stronger tendencies to adopt less risky driving behaviors, and to perceive the social norms and the police as more just. These findings deepen our understanding about the role of these two salutogenic factors in predicting health behaviors. It seems that confidence and trust in the authorities are highly related with the ability to perceive the world and the group as coherent (Mana and Sagy, 2020). We can suggest that when the opposite is true, and the authorities are perceived as unjust, SONC could promote the tendency to reject the rules and the out-group. This assumption is based on previous studies that revealed the relationships between SONC and adherence to

the in-group collective narratives and rejecting the out-group one's to right-wing attitudes and higher level of religiosity (Mana et al., 2019).

In addition to the importance of the salutogenic factors in promoting non-risky driving behavior, the mediation model findings were partly confirmed. An interesting difference, however, was found between the two groups. Among Arabs, perception of police attitudes as just only mediated the relationships between SOC and SONC and the tendency to take risks. For the Jewish participants, perceptions of the police attitudes as just also mediated the other factors (perception of driving as threat or as a challenge and perceptions of social norms). According to Factor et al. (2014) we could expect that the perception of the police attitudes will be more crucial for Arabs than for Jews. It seems that for the Jewish adolescents the perceptions of the police and the Israeli authorities is less ambivalent and therefore the mediating effect is stronger among them as compared to their Arab counterparts. Risky driving behavior among young Arabs may reflect a sense of rebellion against the government and the police, especially if those institutions are perceived as representing and serving the goals of Jewish society, while practicing injustice and inequality towards the Arab society.

### Study Limitations

The study population included 12th graders in high schools, only some of whom already had a driving license. Since perceptions and abilities related to driving are also based on personal exposure and experience, there is a possibility that these perceptions are premature and that it would be appropriate to examine their intentions and tendencies to take risks while driving after they have been driving for a longer period of time.

Another limitation regarding the generalizability of the results arises from the sample's representation of the minority and majority groups, which does not align with the actual population ratio.

In addition, the present study used tools translated from Hebrew into Arabic, including the questionnaire for measuring behavioral intentions (Taubman – Ben-Ari, 2004, 2008). The tool may not be sensitive enough to investigate behavioral intentions regarding driving among youth from Arab communities, and it may be more suitable for Jewish youth.

### Conclusion

We compared Arab and Jewish youth and put special emphasis on understanding the tendency of young Arab drivers in light of their high level of involvement in road accidents. It seems that the tendency to take risks is related to personal, social,

and national aspects that are also interrelated. Based on the main contribution of perceptions of the police attitude, among both Jewish and Arab adolescents, we recommend taking steps to enhance the positive role of the police using education and community interventions.

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## References

- Antonovsky, A. (1979). *Health, stress and coping*. San Francisco: Jossey-Bass.
- Arnfreund-Hager, A. (2012). *The effect of emotional induction and the contribution of personal characteristics to reckless driving among young drivers*. A thesis submitted for the degree of Doctor of Philosophy. Bar Ilan University: Ramat Gan. (Hebrew).
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Baron-Epel, O. *et al.* (2008). 'Individual-level analysis of social capital and health: a comparison of Arab and Jewish Israelis', *Social Science and Medicine*, 66(4), pp. 900-910.
- Bergdahl, J. (2007). 'Ethnic and gender differences in attitudes toward driving', *Social Science Journal*, 44(1), pp. 91–97.
- Beullens, K., Roe, K., and Van den Bulck, J. (2011). 'Excellent gamer, excellent driver? The impact of adolescents' video game playing on driving behavior: a two-wave panel study', *Accident Analysis and Prevention*, 43(1), pp. 58-65. doi.org/10.1016/j.aap.2010.07.011 Epub 2010 Aug 14. PMID: 21094297.
- Campos-Outcalt, D. *et al.* (2003). 'Motor vehicle crash fatalities by race/ethnicity in Arizona, 1990–96', *Injury Prevention*, 9(3), pp. 251–256.
- Carlén, K. *et al.* (2020). 'Sense of coherence predicts adolescent mental health', *Journal of Affective Disorders*, 274, pp. 1206-1210. doi.org/10.1016/j.jad.2020.04.023
- Ehrenfreund-Hager, A., and Taubman – Ben-Ari, O. (2016). 'The effect of affect induction and personal variables on young drivers' willingness to drive recklessly', *Transportation Research Part F: Traffic Psychology and Behaviour*, 41, pp. 138-149.
- Elfassi, Y. *et al.* (2016). 'Community sense of coherence among adolescents as related to their involvement in risk behaviors', *Journal of Community Psychology*, 44(1), pp. 22-37.
- Elliott, M. A., Armitage, C. J., and Baughan, C. J. (2003). 'Drivers' compliance with speed limits: An application of the theory of planned behavior', *Journal of Applied Psychology*, 88(5), pp. 964–972.

- Elliott, M. A., Armitage, C. J., and Baughan, C. J. (2005). 'Exploring the beliefs underpinnings drivers' intentions to comply with speed limits', *Transportation Research Part F*, 8(6), pp. 459–479.
- Eriksson, M. and Mittelmark, M. B. (2017). 'The sense of coherence and its measurement' in Mittelmark, M., Sagy, S., Eriksson, M., Bauer, G. F., Pelikan, J. M., Lindström, B., Espnes, G. A. (Eds.), *Handbook of Salutogenesis*. Springer International, pp. 97-106.
- Factor, R. *et al.* (2013). 'A social resistance perspective for delinquent behavior among non-dominant minority groups', *The British Journal of Criminology*, 53(5), pp. 784–804.
- Gabaren, S. (2020). 'The status of the Arab women in Israel: Trends, changes and factors', *Education, Language and Sociology Research*, 1(1), pp. 138-143. doi.org/10.22158/elsr.v1n1p138
- Harper, J. S. *et al.* (2000). 'Motor vehicle crash fatalities: A comparison of Hispanic and non-Hispanic motorists in Colorado', *Annals of Emergency Medicine*, 36(6), pp. 589–596.
- Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis*. New York: Guilford Press.
- Hakkert, A. S. *et al.* (2001). 'The evaluation of effects on driver behavior and accidents of concentrated general enforcement on interurban roads in Israel', *Accident Analysis and Prevention*, 33(1), pp. 43-63. doi.org/10.1016/S0001-4575(00)00014-2
- Hilton, J. (2006). *Race and ethnicity factors in fatal motor vehicle traffic crashes 1999–2004*. Washington: National Highway Traffic Safety Administration.
- Letki, N. and Kukolowicz, P. (2020). 'Are minorities free riders? Applying the social resistance framework to public goods production in Central-Eastern Europe', *European Journal of Political Research*, 59, pp. 137-159. doi.org/10.1111/1475-6765.12347
- Lerner, N. *et al.* (2010). *An exploration of vehicle-based monitoring of novice teen drivers: Final*. NHTSA report. Available at: <https://www.nhtsa.gov/document/exploration-vehicle-based-monitoring-novice-teen-drivers-final-report>
- Mana, A., Srour, A., and Sagy, S. (2019). 'A sense of national coherence and openness to the "other's" collective narrative: The case of the Israeli–Palestinian conflict', *Peace and Conflict: Journal of Peace Psychology*, 25(3), pp. 226-233

- Mana, A., and Sagy, S. (2020). 'Brief Report: Can political orientation explain mental health in time of a global pandemic? Voting patterns, personal and national coping resources, and mental health during the Coronavirus crisis', *Journal of Social and Clinical Psychology*, 39, pp. 165-171.
- Mana, A., et al. (2021). 'Individual and national coping resources and their relationships with mental health and anxiety: A comparative study in Israel, Italy, Spain, and the Netherlands during the Coronavirus pandemic', *Health Promotion Perspectives*, 28(2), pp. 17-26. doi.org/10.1177/1757975921992957
- Miller, G., and Taubman – Ben-Ari, O. (2010). 'Driving styles among young novice drivers: The contribution of parental driving styles and personal characteristics', *Accident Analysis and Prevention*, 42(2), pp. 558–570.
- National Road Safety Authority (2016). National information and research center data. Jerusalem: National Road Safety Authority. (Hebrew)
- National Road Safety Authority (2018). National information and research center data. Jerusalem: National Road Safety Authority. (Hebrew)
- Porter, B. E., and England, K. J. (2000). 'Predicting red-light running behavior: A traffic safety study in three urban settings', *Journal of Safety Research*, 31(1), pp. 1–8.
- Rattner, A., and Yagil, D. (2004). 'Taking the law into one's own hands on ideological grounds', *International Journal of the Sociology of Law*, 32(1), pp. 85–102.
- Sagy, S. (2014). 'Preventing drug abuse among children and adolescents: Where does the salutogenic approach direct us?', *Health*, 6(7), pp. 541-548. <http://dx.doi.org/10.4236/health.2014.67073>
- Sagy, S. (2015). 'From the diary of a conflict researcher: The salutogenic paradigm', *Mifgash: Journal of Social-Educational Work*, 22(40), pp. 9-26. (Hebrew)
- Sagy, S., Shani, E., and Leibovich, E. (2009). 'Factors related to attitudes towards drug use and alcohol drinking: Comparing immigrants from the former Soviet Union and Israeli-born adolescents', *Journal of Substance Use*, 14(1), pp. 10-18. doi.org/10.1080/14659890802305879
- Shinar, D., and Compton, R. (2004). 'Aggressive driving: An observational study of driver, vehicle, and situational variables', *Accident Analysis and Prevention*, 36(3), pp. 429-437.

- Smootha, S. (2015). *Still playing by the rules: Index of Arab-Jewish relations in Israel 2015*. Jerusalem: The Israel Democracy Institute.
- Tyupa, S. A. (2011). 'Theoretical framework for back-translation as a quality assessment tool', *New Voices in Translation Studies*, 7, pp. 35-46.
- Taubman – Ben-Ari, O. (2004). 'Intimacy and risky sexual behavior: What does it have to do with death?', *Death Studies*, 28(9), pp. 865–887.
- Taubman – Ben-Ari, O. (2008). 'Motivational sources of driving and their associations with reckless driving cognitions and behavior', *European Review of Applied Psychology*, 58(1), pp. 51–64.
- Taubman – Ben-Ari, O., Florian, V., and Mikulincer, M. (1999). 'The impact of mortality salience on reckless driving: A test of terror management mechanisms', *Journal of Personality and Social Psychology*, 76(1), pp. 35-45.
- Taubman – Ben-Ari, O., and Katz – Ben-Ami L. (2013). 'Family climate for road safety: a new concept and measure', *Accident Analysis and Prevention*, 54, pp. 1-14. doi.org/10.1016/j.aap.2013.02.001
- Taubman – Ben-Ari, O., Mikulincer, M., and Iram, A. (2004). 'A multifactorial framework for understanding reckless driving-appraisal indicators and perceived environmental determinants', *Transportation Research Part F: Traffic Psychology and Behaviour*, 7(6), pp. 333–349.
- Thomson, J., Tolmie, A., and Mamoon, T. P. (2001). *Road accident involvement of children from ethnic minorities*. London: Department of the Environment, Transport and the Regions.
- Vivoda, J. M., Eby, D. W., and Kostyniuk, L. P. (2004). 'Differences in safety belt use by race', *Accident Analysis and Prevention*, 36(6), pp. 1105–1109.
- Zaatut, A, and Haj-Yahia, M. M. (2016). 'Beliefs about wife beating among Palestinian women from Israel: The effect of their endorsement of patriarchal ideology', *Feminism and Psychology*, 26(4), pp. 405-425. doi.org/10.1177%2F0959353516647071