



Evaluation of the effect
of
El Halev IMPACT programs
on participants

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Research for Social Impact

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Executive Summary

El Halev is an NPO, established in 2003 with the goal of empowering populations in Israel that are vulnerable to acts of violence particularly among women and girls. To achieve its goal the association implements a variety of educational violence-prevention programs in which the martial arts are a core component.

The present study was conducted to examine the influence of the association's flagship program for women, the IMPACT course which is an empowerment self-defense program (ESD). Its goal is to empower women and provide them with some tools for resisting and preventing assault without limiting their freedom as women (and in fact expanding their freedom). The programs were designed to achieve two parallel outcomes: reduction in the risk of sexual assault and completed rape on the one hand, and on the other, empowerment of women who do experience violence, by reducing sexual-assault related anxiety and increasing women's self-efficacy belief in their ability to prevent sexual assault. These two tracks are expected to reduce avoidant behaviors associated with fear of sexual assault, and the experience of helplessness.

A more far-reaching goal of these courses is to place the psychological empowerment regarding sexual assault in the context of broader empowerment by increasing women's self-confidence, their global sense of capacity and the degree of control over their own lives and dominance in their private space and in the public arena.

This study examines the psychological impact of the IMPACT program on Israeli women who attended the course. The measures selected as indices separately evaluate sexual assault related empowerment and global empowerment. The study attempted to determine whether there was an improvement in the indices in women who completed the course **more than six months earlier** compared to women who were about to begin. This study is distinctive for three of its aspects: first, while most studies to date have been conducted in the US and/or with English-speaking populations, the current study looked at Israeli women. Second, unlike most other studies which examined the impact on women a few months after completing a course, the present study looked at the medium to long range impact, namely **six months or longer**. Third, this study investigated heterogeneous groups of women, unlike most studies reported in the literature which, for the most part, investigated the impact of programs on college students.

This study applied a questionnaire composed of several sections. Several sections were taken from validated questionnaires available in the literature and a number were developed by the researchers. The questionnaire sections scored measures of participants' self-worth beliefs, silencing the self, self-efficacy beliefs in the context of self-defense, and avoidance behavior during daytime and nighttime. Participants were also asked about their history of being sexually assaulted.

A total of 307 women completed the questionnaire: 73 women from the Pre group, 154 women from the Post group, and 80 women from the General Population.

In general, **a significant improvement on all tested indices** was found, within the six-month period from completing the course, between the group of women before the course and the group that completed the course. This confirms the psychologically empowering effect of the IMPACT course on attendees in the medium time range. Moreover, **its effect has been confirmed both for empowerment indices specific to sexual assault and the more general empowerment indices**. This finding is in line with a series of earlier findings in the literature which revealed impact of the course on domain-specific and global empowerment indices. As expected, the extent of course impact on domain-specific indices was greater than the effect on global indices.

Specifically, the study has found that the courses have a significant effect on reducing various avoidance behaviors during daytime and nighttime. This finding is of particular importance, because such behaviors can be materially detrimental to women's quality of life by potentially damaging their earning capacity, restricting the extent of their leisure activities, and even limiting their freedom of movement.

Moreover, it is patently clear that these behaviors are due to women's fear of being sexually assaulted. So although the question was not tested directly in the present study, we may conclude that the course reduces fear of assault. This reduction in fear of assault is directly related to another finding; a significant increase in the women's self-efficacy beliefs. In other words, women that attend the course feel they are better equipped to cope with situations involving potential sexual assault.

Empowerment such as this increases women's degree of control over their lives in general, as evidenced by findings regarding global psychological empowerment for two of the indices: a decline in silencing the self (self-censorship) associated with increasing control of personal and interpersonal space, and a general rise in the self-esteem beliefs.

In addition to this, study results raise the possibility that all women can be expected to benefit from attending this course, and its value is not limited to those who actively choose to attend the course. This is because women who took the course scored higher relative to the general population on two distinct empowerment indices 'self-efficacy in the context of self-defense' and 'silencing the self'. Note that while the first index is specific to a woman's perception of ability to defend herself from attack, the second index is an global empowerment index with clear implications on the dominance of women in the personal/ family space, and probably also in the public domain. Our findings therefore support the possibility that providing the courses in frameworks attended by women from the general population (such as the military, workplaces, and probably also high schools) not only to women who actively choose to participate in courses can improve more than their self-defense skills, but will also contribute to global empowerment which will be expressed in other areas.

Introduction

El Halev is an NPO established in 2003 with the goal of empowering populations in Israel that are vulnerable to acts of violence particularly among women and girls. To achieve this goal its association implements a variety of educational violence-prevention programs in which the martial arts are a core component.

The present study was conducted to examine the effect of IMPACT, the association's flagship program for women. IMPACT is a workshop-based program made up of a series of sessions and aimed at empowering women and preventing gender-related violence. The program is built around 4-5 sessions given over a total of 25 hours. Class size is 10-15 participants.

The IMPACT method requires a staff of 3-6 women and men, where the women serve as lead instructor-coaches and the men serve as assailant/coaches. During course sessions women are presented with simulations of real-life assault situations in the public and private domain, and are taught to exploit the strengths of the female body to defend themselves effectively from assault and to function competently in a crisis.

Although the program has, as noted, a significant physical component in which women acquire skills borrowed from the world of martial arts and learn to use them to defend themselves against assailants, women also learn to use body language and vocal skills, assert themselves and set limits (see further details on the association's website: <http://www.elhalev.org> and Priel, 2013). So far the population attending this course has included women from a variety of backgrounds, although, as a rule these were Jewish women. Most of the courses were held in Jerusalem and in Tel Aviv.

This report opens with a brief review of the literature on the known effects of self-defense courses for women and criticism of such courses, it then presents the research questions and method, and lists findings, analysis method and subsequent conclusions.

Scientific background

Combating sexual assault

Sexual violence means coercing a person into sexual behavior against their will and choice (MacKinnon, 2005). This is a general term referring to all sex offences and has a clear gender bias. Based on data from an official survey conducted in the US as quoted by Jocelyn Hollander, one in five women in the US is raped at some stage of her life (Black et al., 2011 in Hollander, 2014). Data in Israel are similar, and indicate that one in three women will be sexually assaulted during her lifetime (Regev & Shiri, 2012).

Studies conducted in western countries indicate that the most vulnerable population is young women and teen girls¹. For example, 12-20% of female college students in the US reported being raped at some time (Kilpatrick, Resnick, Ruggiero A., & McCauley, 2007).

These numbers when added to the obviously severe implications for the immediate victims, have a social implication for the entire female population: the literature shows that very high levels of fear of rape have been measured among women, also among those who have not been sexually assaulted. This fear is notably high among young women, and influences their daily behavior (see for instance: Ferraro, 1996).

According to official US data, 82% of sexual assaults and a similar percentage of rape cases are perpetrated by assailants known to the victim (U.S. Department of Justice, 2013). Furthermore, some 50% of assaults and rapes take place within a 1 mile radius of the victim's home, of which 13% in the homes of friends, relatives, and neighbors (U.S. Department of Justice, 1997). These data clearly indicate that most sexual assaults could not have been prevented by the victims' avoidance behavior. This means that avoidance behavior is not only detrimental to women's quality of life and degree of control they have over their lives, it is also ineffective at preventing the greater portion of assault incidents.

Attempts to battle the phenomena of sexual assault have been made over the years. Feminist organizations' working assumption is that sexual assault in western culture is a social phenomenon that stems from a cultural climate that has preserved the gender balance of power. This cultural climate, known as rape culture, posits a dual perception of gender according to which man is dominant and aggressive, and woman is passive and physically and mentally weak (McCaughy, 1998). This asymmetric gender reality can explain at least part of the data in the previous paragraph.

This perception also corresponds with studies which show that sexual assaults should not be viewed merely as a sexual act, but as violence that uses intercourse to gain control. Thus, for example, many perpetrators have been found to have high levels of anger toward women and a need to control them (for example, Lisak & Roth, 1990). This information, combined with the fact that many perpetrators are serial rapists and attackers (for example, Lisak & Miller, 2002) bolsters the position that an effective method of combating attacks is the **use of verbal-behavioral tools, in conjunction with self-defense methods.**

The battle against sexual attacks has so far been waged on several fronts. The immediate-personal approach provides assistance to victims (for example, through help centers for sexual assault victims). On the social front, educational campaigns were run aimed at increasing public awareness of the phenomenon, increasing bystander intervention in case of a sexual assault, and attempts had been made to modify the social norms which give rise to sexual assaults, and to empower women to resist attack (Priel, 2013). At the same time, on the general social front, other than increasing awareness of the phenomena and localized short-term successes in increasing empathy with victims, educational programs have not so far garnered significant successes (Gidycz, Rich & Marioni, 2002; Gidycz, Orchowski, & Edwards, 2011).

¹ Sexual assault during warfare and sexual assault in underdeveloped countries are not included in this review.

Conversely, the positive effect of empowerment programs for the general female population with a significant self-defense component (hereby referred to as ESD programs) is widely and consistently supported by research (see in addition to the Introduction, the review by Brecklin, 2008).

Empirical support for efficacy of ESD programs

ESD programs are concerned with empowering women and giving them the tools to prevent and resist assault, without resorting to restricting their freedom (in fact expanding their freedom). The programs were designed to achieve two parallel outcomes: reduction in the risk of sexual assault and completed rape on the one hand, and on the other, empowerment of women who do experience violence, by reducing sexual-assault related anxiety and increasing women's self-efficacy belief in their ability to prevent sexual assault. These two tracks are expected to reduce avoidance behaviors that are a result of fear of sexual assault and a feeling of helplessness. A more far-reaching goal of these courses is to place the psychological empowerment regarding sexual assault in the much broader context of empowering women in all areas of their lives, in other words, increasing women's self-confidence, their overall sense of capability and the degree of control over their own lives, and consequently their level of dominance in their private space and ultimately, also in the public domain.

Course instructors rely first and foremost on evidence that physical and verbal resistance reduces the chance of rape (See Bercklin & Ullman, 2005; Hollander, 2014; Orchowski, Gidycz, & Raffle, 2008; Ullman 1997, 1998, 2007; Ullman & Knight, 1992. However, see Gidycz and her colleagues (Gidycz, Rich, Orchowski, Miller, & King, 2006; Gidycz, et al., 2015) who failed to find impact of ESD programs on the percentage of assaults experienced by participants after taking the course.)

In addition to this, there is evidence that ESD programs have a positive effect on several psychological indices: improved self-esteem, improved self-efficacy in the immediate context of self-defense, global assertiveness and assertive sexual communication, and reduced fear of sexual assault. More importantly, the increase in these indices was maintained several months after completing the course (Gidycz et al., 2015; Hollander, 2014; Orchowski, Gidycz, & Raffle, 2008). For example, Orchowski et al. found a rise in self-efficacy in the context of self-defense and in assertive sexual communication four months after the end of the course. Ozer and Bandura (Ozer & Bandura, 1990) obtained similar results as well as a significant decrease in avoidance behavior. The last finding has an unquestionably meaningful impact on these women's daily lives.

We must emphasize that a person's self-efficacy belief, i.e., a person's belief in his or her ability to accomplish some task, is not unrelated to actual capabilities because a clear correlation was found between a person's self-efficacy belief and that person's ability to perform various tasks, particularly among women (see Weitlauf, Smith, & Cervone, 2000 for further detail). In other words, it is possible to view self-efficacy in the context of self-defense as an indirect indicator of acquisition of the pertinent physical and verbal skills. But this is not the least of the self-efficacy index, because in the context of teaching women self-defense skills psychologists Elizabeth Ozer and Albert Bandura have found that acquiring the physical skills indeed improved women's domain-specific self-efficacy, as expected, but more interestingly, it improved in turn, women's self-efficacy belief also in related psychological

domains, such as personal conflicts and exhibiting independence during challenging leisure activities (Ozer & Bandura, 1990). Similar results, although with less impressive effects, were also found by Weitlauf et al. (Weitlauf, Smith, & Cervone, 2000). Furthermore, evidence was found of improvement in well-being in women who took the training (Weitlauf, Cervone, Smith, & Wright, 2001). Qualitative studies support these findings (see for instance McCaughy, 1998 who conducted an ethnographic study on ESD programs in the US, and Priel, 2013 who conducted an interview-based study on El Halev IMPACT programs in Israel).

This literature review was conducted first and foremost in the context of IMPACT courses offered to the general female public. At the same time, due to the ubiquity of sexual injuries, it is possible that among women who take the general courses there are women with a history of sexual injury. In these cases, the ESD programs can be considered as possible exposure therapy for PTSD sufferers. A pioneering study from 2006 examined the effectiveness of a short and intensive self-defense course as part of a treatment program for demobilized female soldiers who had been sexually molested during their military service. The study found that this treatment resulted in relief of post-traumatic symptoms and improvement in day-to-day coping. Specifically, a decrease in avoidance behavior patterns was found (David, Simpson, & Cotton, 2006). Furthermore, women who had been raped stated during interviews that participating in ESD programs after the assault helped them cope with the rape trauma, because they realized that unlike their present situation, at the time of the assault they lacked the tools that would have made it possible for them to confront the rapist (Thompson, 2014). These findings are consistent with the work of Gidycz et al. who showed in two separate studies that women who experienced sexual assault tended to blame the perpetrator more and themselves less after taking such courses (Gidycz et al., 2006, 2015).

In summary of this section, it appears from earlier studies that ESD programs have a positive influence on participants with regard to the actual numbers of sexual assaults and completed rapes, the immediate psychological sphere (reduced fear of rape and decreased avoidance behavior, increased self-efficacy in the context of self-defense) as well as women's global empowerment (self-efficacy beliefs in related areas, greater independence, overall well-being, and a rise in assertiveness, specifically sexual assertiveness). Women who participate in such courses and had been previously sexually assaulted also benefit from participation.

Objections to ESD programs

In her 2009 paper, Jocelyn Hollander reviews the main objections to ESD programs that appear in the literature (and in feminist circles), and their respective rebuttals as voiced mainly by Hollander (2009) herself.

The first argument is that of **physical incapability**: if the assailant is resolute the sexual assault will always be completed, so women are inevitably incapable of defending themselves against a sexual assault. This claim is rooted in a perception that views woman as physically weak and incapable of

defending herself, relegating her to a passive existence in which she lacks control over her fate. This argument is unsubstantiated by research: (a) the determination claim cannot be confirmed, because as many as 25% of rape cases are uncompleted (Gordon & Riger, 1989). (b) a drop of 81% in the probability of rape being completed was found in women who resisted assault by fighting back or by escaping from the scene (Clay-Warner, 2003). A significant decrease was also identified following verbal resistance (Ullman, 1997). Also of great importance is the fact that there is no indication of increased physical injury in women who chose to confront their assailant (Ullman, 1998; see also a comprehensive review of the subject in Ullman 1997, 2007).

Second, is the claim of **increased complacency** meaning that graduates of self-defense courses become complacent, and gain a false sense of security which makes them take unnecessary risks. Even worse, they will choose to use aggressive tactics that put them at greater risk when faced with an assailant. This claim is based on the gender-biased perception of woman as mentally weak (i.e. she lacks the mental ability to estimate her actual capabilities and evaluate danger during a crisis) is completely unsupported by research (see Weitlauf, Smith, & Cervone, 2000, for example).

Third, is the **objection to violence as a matter of principle**, cited by some feminist circles (Russell, McCarroll, & Bohan, 2007). According to this position any use of violence must be rejected as a means of settling conflicts, even of violent conflicts. Hollander criticizes this claim, noting that it is necessary to distinguish between the need to use force in self-defense against an assailant and the force used by the assailant.

Fourth, it has also been claimed in feminist circles that ESD program practices lead to **victim blaming**, because teaching physical self-defense skills implies that it is the women's responsibility to make sure they are not attacked (or at the very least since they are able to prevent or reduce the chances of being molested, they are required to acquire these tools). More than that, teaching ESD is an act of defiance against the victims (see for example McDaniel, 1993).

We believe that there are two components to this claim: one regarding the motives of the course instructors in teaching the courses, and the other concerning the victims' feelings. There is no reason to presume that ESD instructors hold such views, as evidenced by the categorical and exclusive assignment of blame for the assault to the attacker which is prominent in these courses, and clearly indicates that victims (or women in general) are not blamed, but rather empowered. Secondly, as stated earlier, rape victims stated during subsequent interviews that participating in ESD programs after the assault helped them cope with the rape trauma, because they realized that unlike their present situation, at the time of the assault they lacked the tools that would have made it possible for them to confront the rapist (Thompson, 2014). In other words, survivors of sexual assault do not actually feel guilty nor do they feel

that anyone is blaming them; on the contrary, they undergo an empowering process and are given the tools to cognitively and emotionally process the traumatic event they experienced.²

A *fifth* objection that has been sounded is that courses benefit only those who take them, but their ultimate result is to **shift the sexual assault on to other women** who have not attended the courses. In other words, the courses in fact channel sexual violence incidents toward weaker women. It is therefore pointless to teach ESD programs; violence against women must be rooted out at source by treating the violent male and the society that created him. Over and above the question of how effective the system is at dealing with the sexual assault problem, and that of finding the correct mix of strategies for dealing with sexual violence (questions that this study does not address), it is important to note that these types of claims tend to use gender schemes which presume woman's built-in passivity when faced with potential assault, and are accusatory toward those who choose to reject this passivity.

Research questions and methods

The current study examined the psychological influence of IMPACT ESD training on Israeli women who attended the course. The indices selected for this study tested domain-specific empowerment associated with sexual assault as well as global empowerment. We tested whether it is possible to find an improvement in indices among women who had completed the course **at least six months** before compared with women who were about to start it. This study is, therefore, unique for three of its aspects: first, while most studies were conducted in the US and/or with English-speaking populations, the present study investigated a population of Israeli women. Second, unlike most studies which found it sufficient to examine impact on women several months after completing a course, the present study tested influences in the medium to long term in **the range of six months and longer**. Third, this study examined heterogeneous groups of women, in contrast with many studies reported in the literature which in most cases looked at the influence of ESD programs on college students.

Due to the impracticability of randomly assigning participants, our control group was made up of women from the general population with similar demographic characteristics, who had not attended and were not about to attend ESD programs given by El Halev or some other organization. This made it possible to test whether the group of women who chose to attend the courses has specific characteristics compared to the general female population, and to check the program's influence in light of the indices obtained from the women in the general population.

² We note that this type of claim is problematic and can also be made in non-violent contexts. For example, it is similarly possible to claim that uneducated adults should not be taught because that would constitute blaming them for their own condition.

Method

This study applied a questionnaire composed of 41 questions (excluding demographic questions) in several sections. Some of the sections were taken from validated questionnaires available in the literature and some were developed by the institute researchers. Questionnaire components are as follows:

Self-esteem

This section contained 7 items from a validated questionnaire that examined, among other things, self-worth beliefs (Stets & Burke, 2014). The original questionnaire was a three dimensional questionnaire for measuring self-esteem, and self-worth was one of the three dimensions. The instrument developers reported a 0.92 internal reliability and 0.87 retest reliability for this scale. Scale score range was 7-28, and the mean obtained was 22.5 (SD=3.2). As shown in the introduction the possibility has been raised in the literature that ESD programs influence participants' global sense of self-worth which exceeds the narrow domain of ability to cope with sexual assault and fear of it. This section explores this possibility.

Avoidance action and behavior caused by fear of sexual assault

The questions in this section were composed by the study team, and their goal was to evaluate the ramifications of fear of sexual assault for participants' daily activities and avoidance behavior, so that the extent of disruption of participants' daily function could be estimated. The questionnaire lists eight descriptions of avoidance actions and behaviors. For each item the respondent was asked to note whether during the past three months fear of sexual assault had caused her to avoid the activity based on one of three categories: Has not occurred (0), Occurred once (1), Occurred more than once (2). Participants were asked to provide information about avoided activities during daylight and during nighttime separately, so that a total of 16 answers were obtained in this section. Some of the items describe actions performed (for example, asking for assistance, taking a longer route than is necessary), and others describe avoiding an activity (for example, not going shopping for a needed item). Some items emphasize avoidance of action that has direct or indirect financial implications (for example, avoiding an action whose goal is financial gain or some other benefit). Obviously, any decrease in avoidance behaviors following the course has far-reaching implications for the respondents' quality of life and their regaining control of their lives. Answers to the questions were collected and arranged in two scales, one scale for daytime hours and one for nighttime. Score range was 0-16.

Self-efficacy in the context of self-defense

This is a 6-item section aimed at measuring the respondent's self-confidence in her ability to use self-defense methods in case of attack. For each method, respondents were asked to indicate how confident they felt about being able to use it on a scale of 1 (not confident at all) to 10 (very confident). This

section appears in Hollander (2014) and is an abridged version of a more comprehensive questionnaire which originally included a further 10 items not included in the present study. Hollander reports in her study an average score of 33 at baseline, but questionnaire reliability was not reported.

“Silencing the Self” questionnaire

A “Silencing the Self” section was included in the questionnaire. It originates in a validated questionnaire by this name (Jack & Dill, 1992). The theoretical grounds for the self-silencing concept is the assumption that in order to create and maintain intimate relations many women silence (in the sense that they do not reveal them to their partner) feelings, thoughts, and certain actions. The present study presumed that ESD programs that are geared toward empowering women (not only in the physical sense) will improve their level of self-silencing (in other words, scores would **drop**) relative to the beginning of the program.

The original 1992 questionnaire had 31 items on four scales: judging the self by external standards, self-sacrifice, the divided self (outwardly presenting a self that is compliant with the standard feminine stereotypes and internally developing anger and hostility), and silencing the self. Silencing the self is defined as suppressing self-expression as a method of preventing conflict and possible loss of the relationship. There are nine items in this section relating to avoiding self-expression for fear of conflict (for example, "I don't speak my feelings in an intimate relationship when I know they will cause disagreement."). Responses are given on a 5-point Likert scale (1-completely disagree to 5-completely agree). In their study, Jack and Dill found that silencing the self is associated with depression among these same women. In their study, the self-silencing subscale had an internal reliability of 0.78 among a sample of female students and a test-retest reliability of 0.88. Average score for the self-silencing subscale was 20.6 (SD 5.9). Four more items were added to the questionnaire by the researchers to somewhat expand the perspective. These items were intended to provide additional information regarding self-silencing in daily scenarios from other domains (such as "it's a bad idea to argue with the boss"). However, because the internal reliability of these items was inadequate (0.453) they were excluded from the final analysis.

History of sexual injuries

The three items in this section were composed by the researchers. Respondents were asked to indicate whether they had been coerced into a relationship and/or intercourse by: (1) use of authority, (2) physical force or threat to use physical force, (3) alcohol or drugs. Response categories were: Never, Did not happen but someone tried, Happened during the past year, Happened over a year ago, and Don't know.

The questionnaire also included several demographics questions.³

A sample questionnaire is available at the following link:

<https://www.surveymonkey.com/r/26BYD7H>

The following table summarizes the questionnaire components.

Table 1:

Questionnaire section	Section source	Number of items	Response scale for calculating score	Possible scale score range in this section
Self-worth belief	Stets & Burke (2014)	7	1-4	7-28
Avoidance actions and behavior due to fear of sexual assault (daytime)	Study team	8	0-2	0-16
Avoidance actions and behavior due to fear of sexual assault (nighttime)	Study team	8	0-2	0-16
Self-efficacy beliefs in the context of self-defense	Hollander (2014)	6	1-10	6-60
Silencing the self	Jack and Dill (1992)	9	1-5	9-45
History of sexual injuries	Study team	3	Categories	Not applicable

Respondents could choose not to answer certain questions. The order of sections and items in each section was fixed.

³ In the questionnaire we submitted to the general population we used the age question as a screening question for participants, which is why it appears at the top of the questionnaire. A further screening question that is unique to this population ensured that the respondent had not participated or was not about to participate in an El Halev Impact course. Participants were also asked about their experience with martial arts and self-defense programs.

Participants and procedure

Three groups of women participated in the study: one group of women who had completed the course, most of them over six months earlier,⁴ referred to in this study as the Post Group. a second group consisted of women who had decided to take the course but had not yet done so; they took the questionnaire just before the first class. This group was called the Pre Group. A third group consisted of a sample of Jewish Israeli women (because the course was available to women from the Jewish population) aged 20-55, and formed the control group. This group is called the General Population group.

The Post and General Population groups completed their questionnaire on a digital platform.

The Pre group filled print-outs of the questionnaire at the beginning of the first meeting of the self-defense course.

Filling out a questionnaire took approximately 15 minutes. Women were permitted to skip questions they did not wish to answer.

Findings

A total of 307 women completed the questionnaire: 73 women from the Pre group, 154 women from the Post group, and 80 women from the General Population. In 13.8% of the cases women did not respond to questions (excluding demographics items). Most respondents (of those who answered the pertinent questions) were women aged 18-40 (81.4% in the Pre group, 78.5% in the Post group, and 67.5% in the control), most women had an academic education (70% in the Pre group, 84.4% in the Post group, and 62.5% in the control). However, while 78.8% (CI=±8.9%) of the control group (General Population) were married or living with a regular partner, 27.5% (CI=±10.5%) of respondents in the Pre group reported the same, and 52.1% of the Post group (CI=±8.9%).

Women's responses are shown below grouped by study measure (i.e. by section). In all cases, a three level one-way analysis of variance (5% significance) was conducted together with two planned comparisons : examining the effect of intervention by comparing results of the Pre group to the Post group, and comparing the Pre group to the General Population to quantify the differences or similarity in measures between course participants and women from the general population (this is required due to the absence of random assignment). A further unplanned post-hoc comparison was made (with Tukey correction) to test whether there was a difference between the General Population and the Post group. To accommodate ease of reading as well as readers who are unfamiliar with statistical methods, statistical analysis results are all shown in the following table on page14, and are not listed within the text (beyond presenting their significance). Since for some of the measures a high value indicates an

⁴ In fact, only 5.4% of respondents reported that less than six months had passed since they completed the course. In contrast, 36.6% completed the course six months to a year earlier, 27.7% 1-2 years, 23.2 2-5 years, and 7.1% of respondents completed the course at least 5 years earlier.

improvement, whereas in others this indicates the reverse, the former is marked in green, and the latter in red.

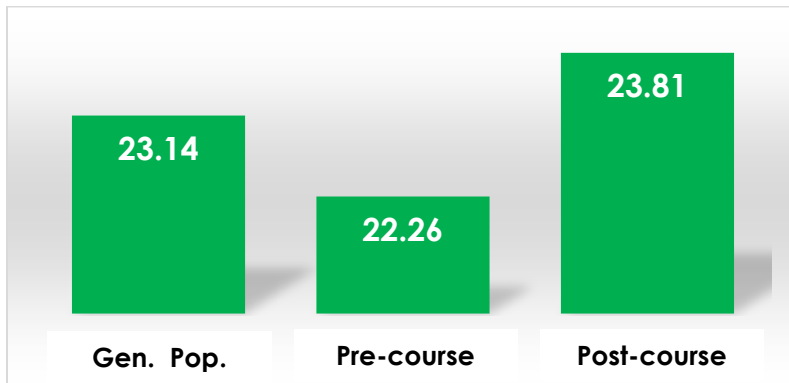
Table 2:

		Measure					
		Self- worth	Self- efficacy	Silencing the self	Avoidance behavior in daytime	Avoidance behavior in nighttime	
		Internal reliability (α)					
		.951	.920	.840	.807	.807	
		One-way variance analysis					
F (2, 304)		4.37	59.46	5.55	5.78	5.51	
p		.014	.000	.004	.003	.004	
		Planned comparisons					
General population group vs. Pre group	Estimate of contrast	-.873	-5.263	.569	.920	1.664	
	Standard deviation	.602	1.862	1.017	.430	.547	
	p	.148	.005	.576	.033	.003	
Pre group vs. Post group	Confidence interval (95%) for contrast	Lower Upper	-2.057 .312	-8.927 -1.598	-1.432 2.570	.074 1.766	.589 2.740
	Estimate of contrast		-1.550	-16.585	2.653	1.283	1.380
Pre group vs. Post group	Standard deviation		.529	1.635	.893	.378	.480
	P		.004	.000	.003	.001	.004
	Confidence interval (95%) for contrast	Lower Upper	-2.590 -.510	-19.802 -13.368	.896 4.410	.540 2.026	.436 2.325
		Unplanned comparison (Tukey)					
General population group vs. Post group	Estimate of contrast		-.677	-11.322	2.084	.363	-.284
	Standard deviation		.513	1.586	.866	.366	.465
	p		.385	.000	.044	.583	.815

Measure of self-worth

Figure 1 shows self-worth scores obtained in the study.

Figure 1: Self-worth belief scores (scale: 7-28; a higher score indicates a better result)

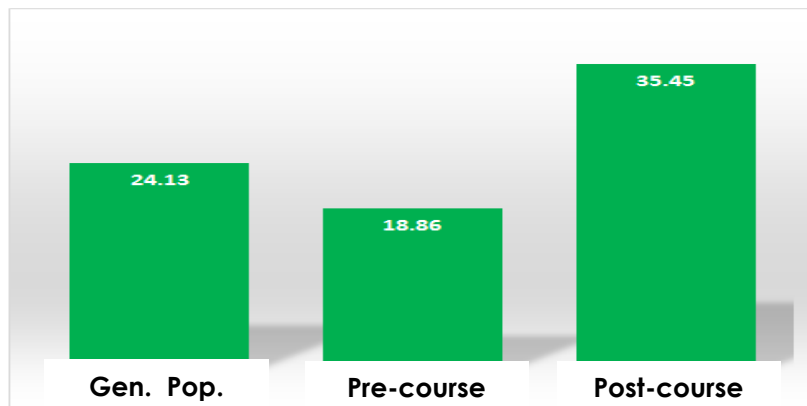


As is evident from the data, measure values in all three groups fall within a similar range. At the same time, the increase in measure score among women who were about to begin the program (Pre group) and the women who had completed it (Post group) is 7% and is statistically significant. No further significant comparisons were found. It seems therefore that the course improved self-worth in women who took the course, to the extent that they shifted from the bottom of the general population scale range to the top of that range.

Measure of self-efficacy in the context of self-defense

Self-efficacy in the context of self-defense scores are shown in Figure 2.

Figure 2: Self-efficacy in the context of self-defense scores (scale: 6-60; a higher score indicates a better result)

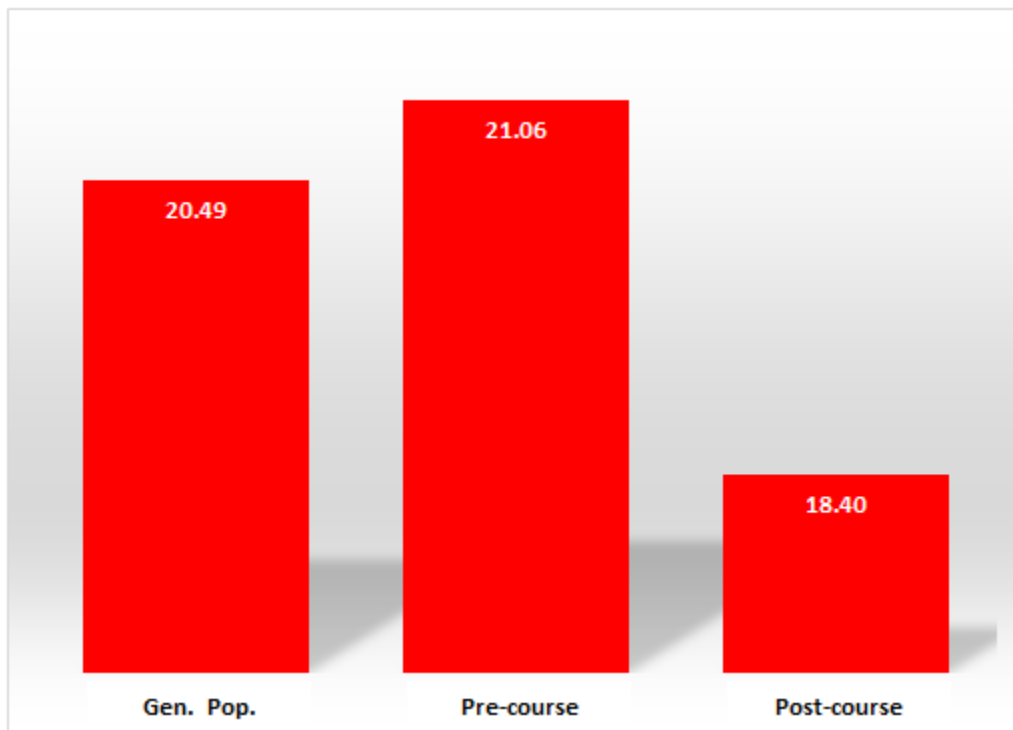


According to the chart data which show an 88% rise in scores for this measure following course attendance, there is indeed a significant difference in self-efficacy beliefs in the context of self-defense between the Post group and the Pre group. However, it is important to note that women's self-efficacy beliefs in the Pre group was significantly lower compared to the General Population. But despite their lower entry point, women who chose to attend the course were found to have a significantly improved their self-efficacy score by attending the course, **to levels higher than those found in the General Population.**

Measure of self-silencing

Silencing the Self scores are shown in Figure 3.

Figure 3: Silencing the self scores (scale: 9-45; a lower score indicates a better result)

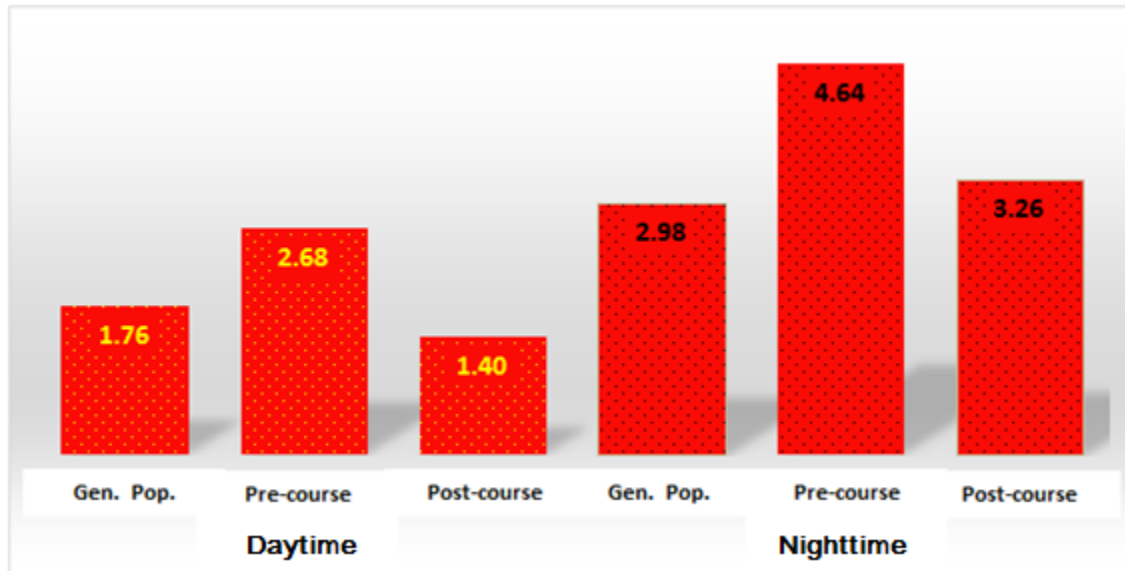


As noted earlier, for this measure, a lower value indicates a better score. As seen in the chart, there is an improvement of almost 13% (which is statistically significant) in scores as a result of attending the course. However, unlike the previous measure, no difference was found between the Pre group and the general population. Correspondingly, a significant difference was found between the women who had attended the course (Post group) and the general population.

Measure of avoidance behavior

Figure 4 shows avoidance behavior scores for daytime and nighttime. As noted earlier, for this measure, a **lower** value indicates a better score.

Figure 4: Avoidance behavior scores for daytime and nighttime (scale: 0-16; a lower score indicates a better result)

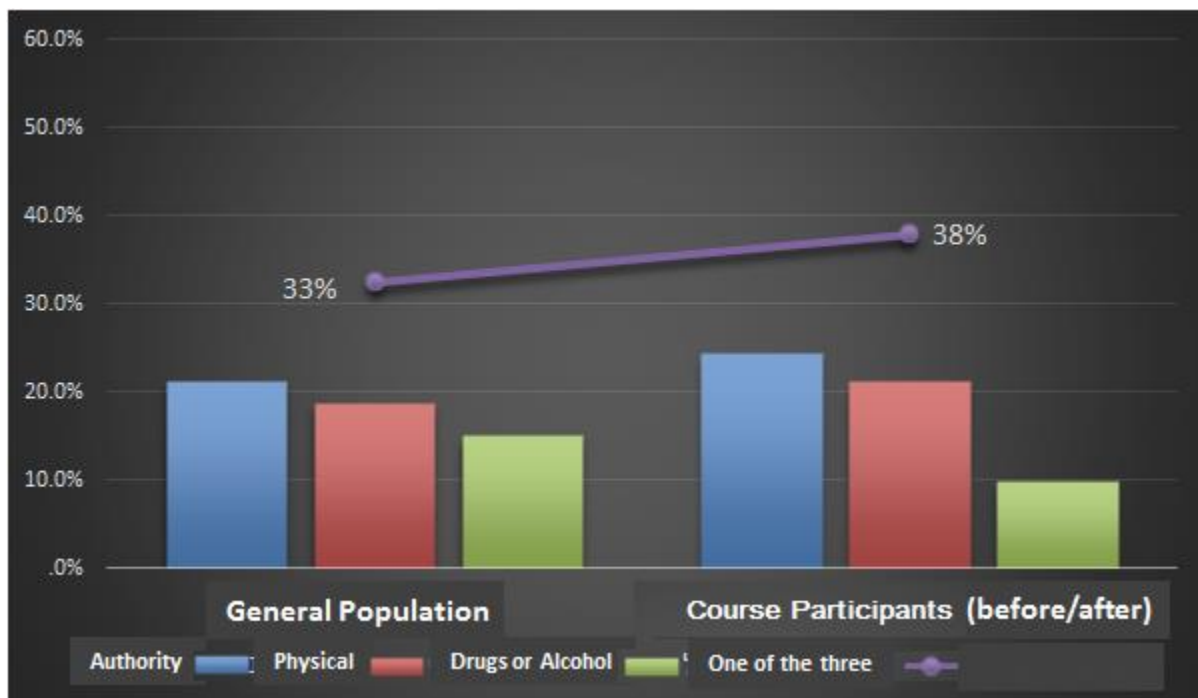


As expected, increased avoidance behavior was found during nighttime (compared to daytime): mean score for daytime was 1.95 compared with 3.63 for nighttime. However, the same pattern was identified both for daytime and nighttime: women who had attended the course (Post group) showed a significant decrease in avoidance behavior (i.e. lower scores) compared to the women who hadn't started the course (Pre group). Improvement was markedly large: close to 40% for daytime and close to 30% decrease in avoidance behavior during nighttime. The difference between the Pre group and the general population group was evident for both daytime and nighttime: women who were about to start the course reported an avoidance routine to a greater degree than women from the general population. This gap was eliminated after the course was completed: women in the Post group scored similarly to general population women.

History of being sexually assaulted

All three groups were asked whether they had ever been coerced into a relationship and/or sexual relationship, or if such coercion had been attempted, by one of the following means: physical force, authority, or application of drugs and/or alcohol. Figure 5 shows response distribution for women who enrolled in the course (i.e. the combined Pre group and Post group) and the general population control group. Note that the figures listed in the report are a **conservative estimate**, because women who chose not to answer the question were calculated in a separate category. In addition to classifying women's reports by three coercion (or attempted coercion) categories, an additional category is included for the percent of women who reported **attempted coercion or coercion of sexual relations and/or a relationship** by at least one of the three means of coercion. The similar percentages would seem to indicate that there is no significant difference between the two groups.⁵ The number of attempted (or successful) coercions of relationships and/or intercourse that occurred during the past year was generally low (occurred among 1.3% of the study participants), and was not excessive also among women in the Pre group.

Figure 5: Percentage of women who reported coercion of a relationship and/or of intercourse, or attempted coercion, in the past (based on the means of coercion, and without classification by means)



⁵ It is important to note that even a non-conservative calculation in which the percentage of women reporting attempted/actual coercion was calculated only out of the women who chose to answer the question (in other words, a calculation that assumes independence between responding to a question and the category of the answer) did not show a significant difference between women who seek to attend the courses and women from the general population. At the same time, we would like to point out that sample sizes, particularly in the general population, were small.

Consequently, any explanation of the discovered differences in measures between the groups of women who enroll in the program (specifically, the Pre group) and the general population group cannot be founded on the differences between the groups regarding sexual assault history.

Discussion

General

Sexual assault and attempted sexual assault of women are a common occurrence in the Jewish-Israeli society, as is unfortunately borne out by the present study. In fact, these results correspond with data recently reported in Israel (Regev & Shiri, 2012).

The following table summarizes the findings regarding the empowerment measures tested in this study.

Table 1: Summary of significant differences discovered in this study

Comparison	Self-worth	Self-efficacy in the context of self-defense	Silencing the self	Avoidance behavior - daytime	Avoidance behavior – nighttime
Pre group vs. Post group	Yes	Yes	Yes	Yes	Yes
Pre group vs. General Population	No	Yes	No	Yes	Yes
Post group vs. General Population	No	Yes	Yes	No	No

In this study, the tested measures were used to explore several elements of psychological empowerment. Some of these measures are directly associated with self-defense (self-efficacy in the in the context of self-defense), some are associated with sexual assault and fear of it (avoidance behavior in the context of sexual assault) and two more tested more general measures of empowerment (self-worth and self-silencing) in the hope that the course would facilitate inclusion of the sexual-assault related psychological empowerment with more generalized elements of female empowerment. In the range of six months and longer after completing the course, a significant improvement was found in all measures tested, in the pre-program group compared to the women who had attended the program. This corroborates a medium-term empowering psychological effect of the IMPACT program on women

who attend it.⁶ Moreover, **its influence is confirmed both for domain-specific empowerment measures and for the global ones.** This finding is in line with a series of earlier findings in the literature which revealed impact of the course on domain-specific measures (see for instance Hollander, 2014) and more generalized empowerment measures (see for example, Ozer & Bandura, 1990, as described in the Introduction). As expected, the extent of course impact on domain-specific measures was greater than the effect on global measures.

Comparing with previous results from the literature

Three of the tested measures are, as noted, validated measures from the literature. The measure for self-worth beliefs obtained in this study (23.14 in the General Population; 22.26 in the Pre group; 23.18 in the Post group) is similar to the data presented in Stets and Burke (22.5) (Stets & Burke, 2014).

The silencing of self measure as measured by Jack and Dill (Jack & Dill, 1992), 20.6, is also in the range of scores reported in the present study (20.49 in the General Population; 21.06 in the Pre group; 18.4 in the Post group).

The baseline self-efficacy score reported in Hollander (i.e. before intervention), 33, is rather higher than the scores obtained in the present study for all women (24.13 in the General Population; 18.86 in the Pre group; 35.45 in the Post group). However, one must bear in mind that Hollander's study assessed college-age US students who represent a higher socio-economic background and a more privileged US population. More importantly, their younger age would have an obvious association with their average physical fitness, and consequently also with their sense of self-efficacy in the context of such physical activity as defending themselves from sexual assault. In contrast, the women who come to El Halev programs vary more greatly in age and in demographics.

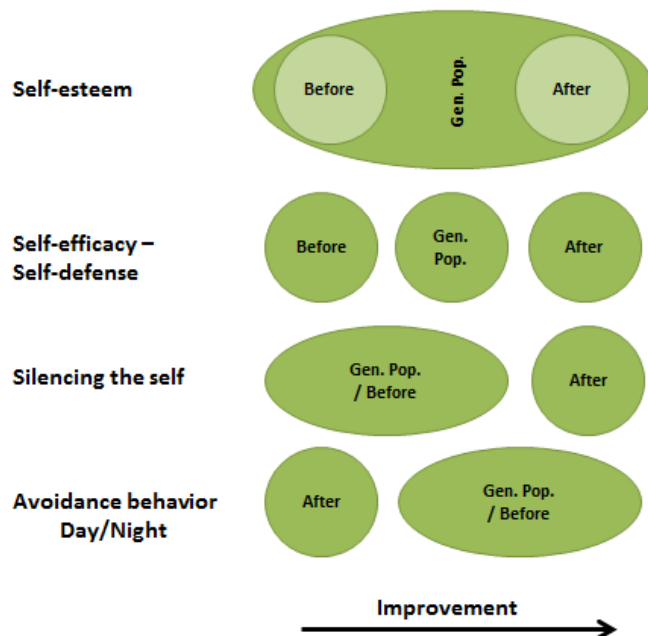
Comparison between study populations

As noted above, attending the course improved all tested measures. Nevertheless, a comparison with the control group sampled from the general female population is still rewarding.

Figure 6 illustrates relative values for the study populations for each of the measures, based on statistical analysis of study results.

⁶ We would like to stress that this time span is longer than that in most studies reviewed in the Introduction.

Figure 6: Schematic illustration of ratio between study populations based on the results



The illustration clearly shows that the pre-program population displays patterns similar to the general female population only for the global empowerment measures: self-silencing and self-worth. For the remaining measures which express aspects that are domain-specific to sexual assault, the Pre group population scores less well than the general population. In other words, women who enroll in these courses have a weaker starting point than the general population as far as empowerment measures directly associated with sexual assault are concerned. On the global measures this population resembles the general population.

The improvement achieved by the group of women who attended the course leads to better or equal scores compared with the general population, both for measures of global empowerment and the sexual assault related ones: better than the general population in the case of self-silencing and perception of self-efficacy in the context of self-defense), or identical to the general population in the case of self-worth and avoidance behavior (day and night). This demonstrates how highly effective these programs are in that results show more than an improvement in test scores as a result of attending the course. Our results point to a truly meaningful improvement, because the scores (after taking the course) outstrip or equal the general population's score.

Consequently, the remarkable finding in this context among women who choose to take the course is their starting point: these women resemble the general population in general psychological measures, but display more avoidance behavior and their perceived ability to prevent sexual assault is lower. These are likely to be their motivations for enrolling in the program. At the same time, it is important to note that we did not find evidence of a difference in number of sexual assaults experienced by women who chose to take the courses (not in the Pre group and/or in the Post group) compared with the general population. Therefore, a woman's history of being sexually assaulted cannot serve as an explanation of the observed differences between the population that seeks courses and the general population.

Conclusions

Empowering effect of the program

ESD programs are concerned with empowering women and giving them the tools to prevent and resist assault. In its examination of El Halev IMPACT courses, the present study centers around the empowering effect of these courses.

It has been found that courses have a significant effect on reducing various avoidance behaviors during both daytime and nighttime. This finding is of particular importance, because such behaviors can be materially detrimental to women's quality of life by potentially damaging their earning capacity, restricting the extent of their leisure activities, and even limiting their freedom of movement.

Moreover, it is patently clear that these behaviors are due to women's fear of being sexually assaulted. So although the question was not tested directly in the present study, we may infer that the course reduces assault anxiety. This reduction in assault anxiety is directly related to another finding; a significant rise in the women's self-efficacy beliefs. In other words, women who attended the course feel they are better equipped to cope with situations involving potential sexual assault.

Empowerment such as this increases women's degree of control over their lives in general, as evidenced by findings regarding global psychological empowerment for two of the measures: a decline in self-silencing associated with increasing control of the personal and interpersonal spaces, and a general rise in self-worth beliefs.

As the results indicate, there are differences in measures specific to sexual assault between the group of women who actively seek to attend the courses and women from the general population. And no less important, there seems to be reasonable indication that the entire female population could benefit from enrolling in such a program, not only women who actively seek to attend one. This is because on both empowerment measures 'self-efficacy in the context of self-defense' and 'silencing the self', women who took the course scored better relative to the general population. We must emphasize that while the first measure is specific to a woman's perception of her ability to defend herself from attack, the second measure is a global empowerment measure with clear implications for the dominance of women in the personal/ family space, and probably also in the public arena. Therefore, despite the proviso regarding absence of random assignment instruments in the present study, the present findings support the possibility that providing the courses in frameworks attended by women from the general population (such as the military, workplaces, and probably also high-schools) can improve more than their self-defense skills, but will also contribute to an overall empowerment that will be expressed in other areas. We also note that previous studies reviewed in the Introduction and which did apply random assignment obtained results that are in the spirit of the present study, and therefore reinforce this possibility.

Study limitations and thoughts for the future

The present study has several limitations. First, as noted, since it was not possible to apply random assignment methods we are unable to determine the degree to which these findings can be generalized for the general population. In other words, although the present study shows strong evidence of the empowering influence of the ESD program on women **who choose to attend it** (who have, as can be seen, clearly identifiable psychological characteristics), program influence on a random sample of women was not tested.

Second, considering the demographic data for women who have attended the program so far, we must emphasize that our findings apply to program influence on Jewish Israeli women only. Considering the highly heterogeneous population typical of Israel (also within its Jewish population), there is certainly reason to examine sub-populations of Israeli society. This is of consequence especially in light of the focus on the psychological influence on women who attend the programs. Moreover, the fact that most of the studies quoted in the literature review were conducted with student populations that are characteristically homogeneous for socio-economic background and age limits their application to behavior of the general population. Therefore, any study conducted among a more varied public enriches our understanding of the influence of ESD programs.

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