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The Risk Factors of Suicidal Motivations during COVID-19 Pandemic: Confirmation of Psychological Pain Theory, Psychological Symptoms, and Early Life Experiences

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Abstract

Background: Intuitive concerns have been expressed that the biopsychosocial adversities associated with the COVID-19 pandemic may increase the suicide attempt rate.

Aim: The present study was performed with aim to determine the risk factors of suicidal motivations during the COVID-19 pandemic and confirm the psychological pain theory (PPT), psychological symptoms (PS), and early life experiences (ELE).

Method: This cross-sectional and descriptive-correlational study was performed with structural equation modeling (SEM). Participants were 300 suicide attempters who were referred to Razi Hospital of Ahvaz from May 2021 to December 2021 and were selected by purposeful sampling method. They responded to the Suicide Attempt Motivations Questionnaire, Mental Pain Questionnaire, Revised List of 25-Item Symptoms and Early Life Experiences Questionnaire. Structural equation modeling, AMOS-24, and SPSS-26 were used to evaluate the proposed model.

Results: The results of Pearson's correlation coefficient showed a positive and significant relationship between ELE and PS with psychological pain and suicidal motivations ($p \leq 0.05$). The results indicated that in the first order, 62% of the variance of dimensions of PS by ELE, in the second order, 78% of the variance of psychological pain is explained by the ELE and PS and in the third order, 81% of the variance of suicide attempt motivations is directly and indirectly explained by the ELE, PS, and PP.

Implications for Practice: Understanding the most common antecedents of suicide attempt motivations can enrich conceptual models of suicide and facilitate the design of suicide prevention and intervention programs.

Keywords: Early Life Experiences, Psychological Pain, Psychological Symptoms, Suicidal Motivations

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic has caused widespread concern not only for physical health but also for mental health (1). As evidenced, many people have developed symptoms of psychiatric disorders during the COVID-19 pandemic (2,3). Corona has caused severe crises worldwide, including the dimensions associated with hunger (4), mental health, depression, anxiety, obsessive-compulsive disorder, panic, and fear (5), and frustration has been the most fundamental traumatic psychological reaction in most affected individuals and those exposed to outbreaks. Pandemics and uncertain times of COVID-19 end and controlling the condition of psychological pressure have added to people's mental health and led to a range of psychological outcomes including anxiety and depression (6-8); therefore subsequent suicide attempts have been made (9,10). One of the secondary consequences of the COVID-19 pandemic is suicide (11). A study conducted on Bangladeshi population showed that 33.5% of participants reported a high suicide risk during COVID-19 (12). The consequences of a suicide attempt can include hospitalization, serious and permanent injuries, freedom restrictions, and many interpersonal complications. Prevention of suicide attempts is essential both to reduce deaths from suicide and to alleviate the suffering caused by non-fatal attempts (13).

One way to reduce the rate of suicide attempts and death is to clarify the motivation for suicidal behavior. Understanding suicidal motivation can lead to identifying warning signs and improving preventive activities. On the other hand, at the individual level, assessing the motivations for suicide attempts can help a clinical specialist identify the most prominent reasons for suicide attempts and focus on the interventions to solve these problems. The main theories of suicide are based on various motivations associated with psychological pain, hopelessness (14), escape (15), burdensomeness, belongings (16), communication (17), impulsivity (18), and problem solving (19). Unfortunately, most of the tools designed to assess suicidal motives have paid little attention to the theoretical framework mentioned above (13). The three-step theory of suicide proposes that suicidal ideation is a function of a combination of pain (physical or mental) and hopelessness. Then, lack of social communication is a major risk factor for escalating suicidal thoughts. Third, the theory facilitates the transformation from suicidal ideation to suicide attempts through acquiring capabilities that include both tendencies and practical factors in the capacity to attempt suicide (20). This theory argues that pain alone is not enough to cause suicidal thoughts. If there is pain in a person's life, but he/she hopes that the situation can improve, the person probably focus on future with less pain rather than ending life (20). For this reason, it takes the frustration to trigger suicidal thoughts. In other words, a combination of pain and despair, or inevitable pain, causes suicidal thoughts (21).

Several case–control studies have compared patients suffering from psychiatric disorders versus persons without a psychiatric diagnosis and have highlighted a relationship between a history of suicide attempts and psychological pain (PP), concluding that PP is significantly correlated with previous suicides, suicide attempts, and the presence of suicidal ideation (22). Also, Bagiyan Koulemarz et al. (23) reported that hopelessness, psychological pain, escape, burdensomeness, low belongings, fearlessness, interpersonal influence, help-seeking, and impulsivity were the motivations for suicide in 250 people. The stressful childhood experiences such as physical and emotional inattention and abuse are associated with an increased risk of depression throughout life (24). In addition, stress and early life experiences (ELE) make people susceptible to impulsivity and hostile behaviors in adulthood (25). ELE can have long-term negative effects on neural development and neurobiological function, which in turn can be linked to the risk of psychological damage in adulthood (26). Studies have shown that experiences of abuse, especially physical and sexual abuse, determine the severity of self-harm behaviors (27,28). Early traumatic experiences lead to negative emotions that underlie PP (29). Moreover, PP plays a mediating role in the relationship between childhood injuries and suicidal ideation (30,31). Orbach et al. (32) have defined PP as a wide range of subjective experiences characterized as a perception of negative changes in the self and its function accompanied by strong negative feelings. Intense ‘unbearable’ mental (psychological) pain is defined as an emotionally based aversive feeling which can be experienced as torment. According to the results of a meta-analysis, PP was diagnosed as a significant predictor of suicide attempts, even in the absence of a psychological disorder. In particular, PP is a stronger factor than depression in vulnerability to suicidal thoughts (33). PP tolerance can play a protective role against suicidal thoughts and symptoms of depression (34). Therefore, since there are challenges in evaluating the

reasons, motivations, and actions of suicide attempts, and considering the mediating role of PP in the Iranian suicide attempters, the present study was performed with aim to determine the risk factors of suicidal motivations during the COVID-19 pandemic and confirm the psychological pain theory (PPT), psychological symptoms (PS), and early life experiences (ELE).

Methods

This descriptive-correlational study with structural equation modeling (SEM), specifically structural regression equations (a mixture of path analysis and factor analysis) was conducted on all suicide attempters. A suicide attempt was defined as any non-lethal act in which a person causes self-harm such as poisoning, jumping from heights, hanging and other methods of self-harm. Participants were 300 suicide attempters who were referred to Razi Hospital in Ahvaz from May 2021 to December 2021. Inclusion criteria were age 14-35 years and minimum education of secondary school. Exclusion criteria were physical disabilities, chronic diseases, drug use due to physical and mental condition, hospitalization during the past year due to physical and psychological conditions, cognitive problems due to suicide attempt, incomplete response to the questionnaires' questions and reluctance to participate in the study. The samples were selected by purposeful sampling method. The sample size was estimated by using the formula proposed by Tabachnick and Fidell (35). Based on this formula, the minimum sample size in correlational studies is calculated from the formula $N \geq 50+8M$. In this formula, N is the sample size and M is the number of predictor variables. According to the number of predictor variables in this research, which was 17 variables, the sample size was estimated to be 186 people. Considering that the minimum sample size in the structural models should be more than 250 people, therefore, 300 subjects were considered in this research to increase the external validity of the study.

After the diagnosis of the individuals attempting suicide by the physician present in the hospital and determining the level of patient consciousness by the help of the psychologist present in the hospital, and coordination with the companions and the patient themselves, a clear explanation of the research objectives was provided, and the patients were assured about the freedom of choice to participate in the study and about the confidentiality of the information written in the research questionnaires. Then, they were asked to answer the questions of the questionnaires according to their characteristics.

The Inventory of Motivations for Suicide Attempts (IMSA)

A self-assessment tool which consists of 54 questions. This questionnaire has been developed to detect and measure the severity of attitudes, behaviors, and planning for suicide attempts. The scale is scored based on a 5-points likert scale from "not important at all=1" to "very important=5". The overall score is calculated based on the sum of the scores, which ranges from 54 to 270 (21). The IMSA consists of nine scales, each with five items (Hopelessness, Psych ache, Escape, Burdensomeness, Low Belongingness, Fearlessness, Help-Seeking, Interpersonal Influence, and Impulsivity) and nine additional items (21). The reliability of this scale was calculated using Cronbach's alpha method, in which the Cronbach's alpha coefficients for subscales ranged from 0.55 to 0.89, and using the test-again test method, the test reliability test for subscales was reported in the range of 0.74 to 0.85 (21). In Iran, Cronbach's Alpha has been obtained as 0.94 for a total questionnaire (34).

Orbach & Mikulincer Menpain Scale (OMMP)

The tool has 44 items and was used to evaluate mental pain (36). Participants rated each statement using a 5-point Likert scale (1=strongly disagree, 2=disagree, 3=some extent agree, 4=agree, 5=strongly agree) (37). In the study by Orbach et al., Cronbach's alpha coefficients were measured for the subscales of OMMP: irreversibility: 0.95, loss of control: 0.95, narcissistic wounds: 0.93, emotional flooding: 0.93, freezing: 0.85, self-estrangement: 0.79, confusion: 0.80, social distancing: 0.80, and emptiness: 0.75 (37). Based on a study by Karami et al., the exploratory and confirmatory factor analysis identified six factors, which explained 66.40% of the variance in mental pain. They reported that Cronbach's alpha coefficient was 0.966 for the total OMMP, 0.925 for emptiness, 0.893 for emotional flooding, 0.877 for loss of control, 0.872 for irreversibility, 0.869 for social distancing/self-estrangement, and 0.617 for freezing (38). In the present study, Cronbach's alpha coefficient was 0.96 for the total scale.

Early Life Experiences Scale (ELES)

The tool was developed in 2003 by Gilbert et al. (39). This scale includes 15 items and three subscales

(threat, submissiveness, and unvalued). Each item of the scale is rated on a five-point Likert scale ranging from (1=completely untrue to 5=very true) that evaluate how much each statement was true for the participant. The authors found good reliability with Cronbach's alpha of 0.89 for threat; 0.85 for submissiveness, 0.71 for unvalued and 0.92 for the total scale (39). The three-factor structure of this questionnaire was fitted in the Iranian sample, and Cronbach's alpha for the total scale, submissiveness, feeling valued/unvalued, and feeling threatened were gained as 0.74, 0.85, 0.66, and 0.80, respectively (40).

Symptom checklist- 25(SCL-25)

This questionnaire is a short form of SCL-90 and has been extracted by Najarian and Davoodi through exploratory factor analysis based on the original form (41). The original form is scored on a 5-degree likert scale ranging from rarely (0), quantitative (1), partially (2), high (3), and very high or severely (4). This questionnaire has 9 dimensions including somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, phobic, paranoid thinking, psychoticism, additional items. Cronbach's Alpha will take the new version for 0.97 for women and 0.98 for men and the retest coefficients will also take a 5-week interval in the entire sample of 0.78, women 0.77 and men 0.79 (41).

Descriptive statistics and correlational analysis of the outcome measures were performed using SPSS26.0 (IBM, Armonk, NY, USA). In addition, AMOS 24.0 (IBM, Armonk, NY, USA) was used for the multiple mediation analysis. A structural equation model (SEM) was constructed to test the hypotheses based on the theory, using a maximum-likelihood (ML) estimator. A bootstrap method (with 2000 samples) was used to construct 95% confidence intervals (CIs) to test the significance of the indirect effects. An indirect effect is considered significant when the 95% CI does not include zero.

Results

Before data analysis, none of the values of Skewness and kurtosis were greater than ±1.96. The univariate outlier data were analyzed using a rectangular graph and multivariate outlier data using Mahalanobis Distance. Finally, 15 outliers were removed from 315 collected data and analysis was performed on 300 data. For structural equation modeling according to Marôco recommendations, the parameter estimation was done by Maximum Likelihood (ML) method with a significance level of 0.05 (42).

The demographic characteristics of the participants are presented in Table 1. The mean age of the participants was 25.4±7.2 years. Among the participants, 40% were male and 60% were female. Moreover, 50% of participants were single, 15% married, 25% divorced and 10% widowed (Table 1). The age of onset of sucidial ideation, the age of the last suicide attempt, the number of suicide attempts, and the methods of suicide are shown in Table 2. The mean of ELE was 50.85±11.69, mean of PS was 74.34±15.68, mean of PP was 149.53±32.02, and mean score of IMSA was 172.25±31.15. The ELE total score was positively and significantly correlated with the score of PS (r=0.575), PP (r=0.777), and motivations for suicide (r=0.777). In addition, the total score PS was positively and significantly correlated with PP (r=0.674) and motivations for suicide (r=0.532).

Table 1. Demographic characteristics of all participants

Variable	N	%
Sex		
Male	120	40%
Female	180	60%
Marital status		
Single	150	50%
Married/common-law	45	15%
Divorced/separated	75	25%
Widowed	30	10%
Highest level of education		
High school diploma or less	165	55%
College or university	75	25%
College or university graduate	45	15%
Graduate or professional school or greater	15	5%

Table 2. Suicide history for all participants

Variable	N	%
Age of onset of suicidal ideation		
14-16	120	40%
17-21	105	35%
22-26	75	25%
Age at most recent suicide attempt		
14-15	75	25%
16-17	60	20%
18-19	45	15%
20-21	30	10%
22-23	30	10%
24-25	15	5%
26-27	15	5%
28-29	15	5%
30-31	15	5%
Number of suicide attempts		
1	200	66%
2	75	25%
3	25	9%
Method		
Overdose/poisoning	175	58%
Cutting/stabbing	90	30%
Hanging	15	5%
Other method	20	7%

Table 3. Correlation coefficient of each subscales of early life experiences, psychological symptoms, and psychological pain with motivations for suicide

Variables	IMSA	Hopelessness	Psychache	Escape	Burdensomeness	Low Belongingness	Fearlessness	Impulsivity	Interpersonal Influence	Help-Seeking
Physical complaint	0.41**	0.19**	0.21**	0.20**	0.25**	0.22**	0.23**	NS	0.15*	0.22**
Obsessive-compulsive	0.36**	0.31**	0.25**	0.27**	0.15**	0.16**	0.17**	NS	0.12*	0.18**
Sensitivity in Reciprocal Relationships	0.41**	0.34**	0.30**	0.29**	0.22**	0.27**	0.22**	NS	0.17**	0.23**
Depression	0.39**	0.35**	0.28**	0.31**	0.20**	0.22**	0.25**	0.13*	0.21**	0.24**
Anxiety	0.46**	0.24**	0.23**	0.19**	0.22**	0.22**	0.24**	0.11*	0.19**	0.23**
Morbid Fear	0.31**	NS	NS	NS	NS	NS	NS	NS	NS	NS
Paranoid Thoughts	0.16**	NS	NS	NS	NS	NS	NS	NS	NS	NS
Psychosis	0.36**	0.11*	0.11*	0.11*	0.16**	0.11*	0.11*	NS	0.15*	0.12*
Psychological symptoms	0.53**	0.30**	0.28**	0.26**	0.25**	0.26**	0.24**	NS	0.21**	0.24**
Emptiness	0.41**	0.43**	0.32**	0.39**	0.26**	0.30**	0.29**	NS	0.19**	0.28**
Emotional flooding	0.41**	0.40**	0.30**	0.33**	0.19**	0.27**	0.26**	NS	0.19**	0.28**
Loss of control	0.35**	0.35**	0.24**	0.25**	0.13*	0.22**	0.20**	NS	0.16**	0.21**
Irreversibility	0.40**	0.35**	0.27**	0.32**	0.15**	0.24**	0.20**	NS	0.22**	0.21**
Social distancing	0.34**	0.33**	0.25**	0.28**	0.19**	0.23**	0.24**	NS	0.16**	0.23**
Freezing	0.53**	0.25**	0.28**	0.18**	0.17**	0.21**	0.21**	NS	0.16**	0.22**
Psychological pain	0.45**	0.42**	0.32**	0.36**	0.22**	0.29**	0.27**	NS	0.19**	0.28**
Threat	0.38**	0.35**	0.25**	0.33**	0.22**	0.23**	0.23**	NS	0.15**	0.24**
Unvalued	0.11*	0.19**	0.13*	0.21**	0.11*	0.12*	0.12*	0.14*	0.18**	0.21**
Submissiveness	0.29**	0.35**	0.25**	0.35**	0.18**	0.20**	0.17**	NS	0.15**	0.20**
Early life experiences	0.33**	0.37**	0.26**	0.36**	0.20**	0.22**	0.21**	NS	0.18**	0.29**
IMSA	-	0.33**	0.35**	0.29**	0.32**	0.34**	0.31**	0.25**	0.15**	0.30**

*P<0.05; **P<0.01

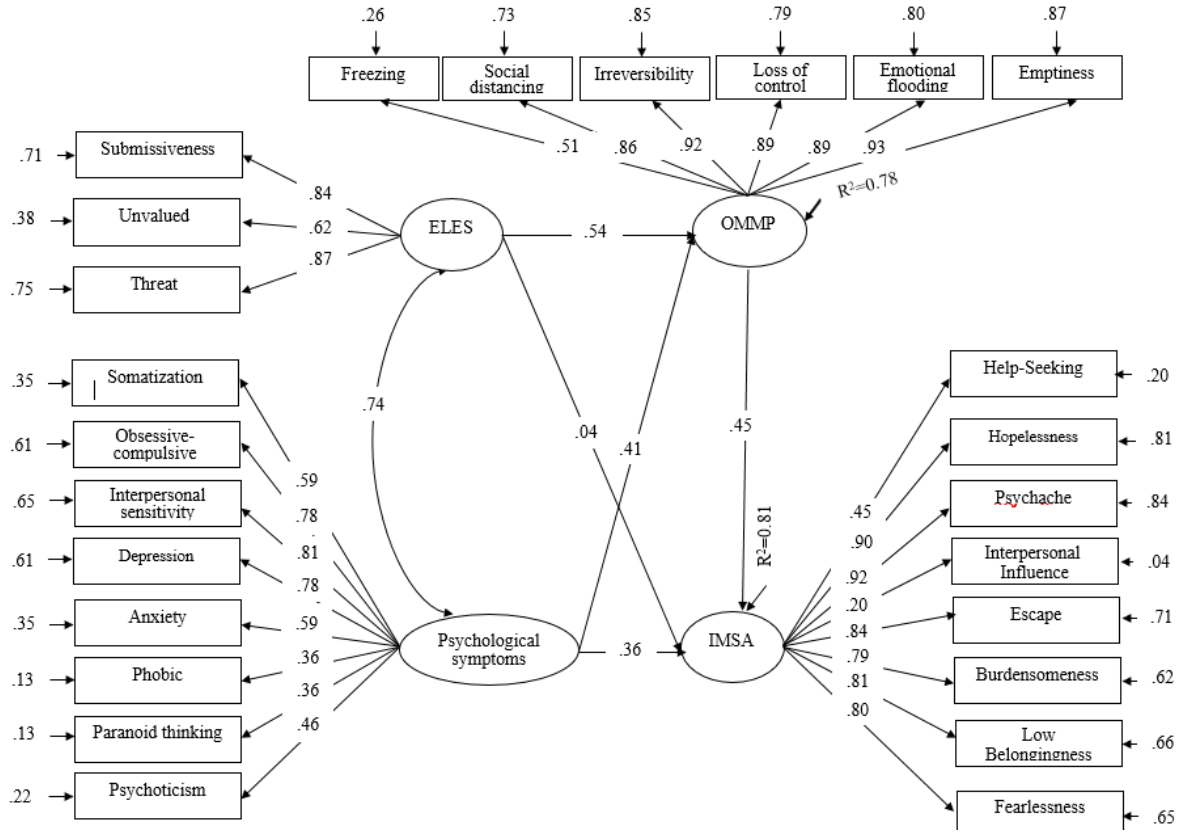

Figure 1. The relationship between psychological symptoms, earlylife experiences, and suicide attempt motivation by mediating psychological pain

There was a positive and significant relationship between the total score in the PP and the motivation for suicide (r=0.454) (Table 3).

The fit indices of the modified model had a good fit (CMIN/DF=2.397, CFI=0.95, RMSA0.07, TLI=0.94). According to the results of the model (Figure 1), p-value was significant (p<0.05) for all coefficients of the observed variables, and therefore all these coefficients were significant. The direct route of PS to PP and IMSA was positive and significant (p<0.05), but the direct path of ELE to IMSA was not significant. Also, indirect pathways of PS and ELE to IMSA through PP were positive and significant (p<0.05) (Table 4).

Table 4. Direct and indirect effects of psychological pain between psychological symptoms and early life experiences and motivations for suicide attempts

Direct effect	**Effect**	**SE**	**Lower Bounds**	**Upper Bounds**	***p*-value**
ELE→ Psychological pain	0.54	0.09	0.37	0.68	0.001
Psychological symptoms → Psychological pain	0.41	0.08	0.24	0.54	0.001
Psychological pain → IMSA	0.45	0.04	0.32	0.49	0.001
ELE → IMSA	0.04	0.13	0.13	0.30	0.526
Psychological symptoms → IMSA	0.36	0.06	0.24	0.41	0.004
Indirect effect	**Effect**	**SE**	**Lower Bounds**	**Upper Bounds**	***p*-value**
ELE → Psychological pain → IMSA	0.24	0.04	0.22	0.31	0.005
Psychological symptoms → Psychological pain → IMSA	0.18	0.05	0.17	0.30	0.009

Discussion

The aim of the present study was to determine the risk factors of suicide attempts during the COVID-19 pandemic and to confirm the theory of PP, psychological symptoms, and early life experiences. The results of structural equation modeling showed that psychological symptoms have a direct

positive and significant effect on suicide motivation. However, the direct effect of early life experiences on suicide motivation was not significant. Early life experiences and psychological symptoms have an indirect positive effect through psychological pain on the motivation to attempt suicide. Moreover, PS has a positive and significant direct effect on the IMSA. While the direct effect of ELE on the IMSA was not significant. Early life experiences and PS have an indirect positive effect on the IMSA through PP. Therefore, ELE does not have a positive and direct effect on the motives of suicide attempts, but PP is an important risk factor associated with suicide attempt motivation in the individuals who attempt suicide. Given that ELE creates an emotional burden, mediation models suggested that such an experience could indirectly affect the risk of suicide through PP (43). ELE is associated with devaluing, deprivation, punishment, threats, and experiences of emotional and sexual child abuse are associated with trauma in adulthood (44). Complex interactions between early life events and brain developmental changes and the association of ELE and development of pain in adulthood have been proposed (45). Clinical evidence suggests that experiencing early stress leads to several abnormalities which may cause maladaptive growth or function in the pain circuit and increase the susceptibility to psychologically chronic pain later in life (46). In addition, ELE of those with neglect, threats, devaluation, corporal punishment, and sexual abuse are associated with changes in the structure and function of certain regions of brain and changes in response to stressful events (47). Furthermore, Stickley and colleagues (48) recently reported significant associations between child sexual abuse and adult-onset chronic pain in a Japanese population; greater number of childhood adversities is associated with a higher risk of adult chronic pain. Also, Begian Kulehmarzi et al. (49) showed that ELE and PS can distinguish suicidal people from normal individuals. However, other studies suggested that it's unclear whether ELE is directly linked to the motivation to attempt suicide (50). Partially or completely such a relationship can be mediated by PP. It can be said that ELE such as early separations, emotional deprivation, verbal abuse, lack of meeting psychological needs, neglect, and physical abuse, and in extreme form sexual harassment act as a catalyst, in such a way that will cause depression, loneliness, hypervigilance, emotional regulation problems feelings of emptiness and dissociative states thatall of which are symptoms of PP. Therefore, the child's temperament in interaction with parental behavior creates a perception of maltreatment in the child, the perception of this maltreatment along with the lack of necessary skills in reducing and modulating dysphoric mood creates psychological confusion and turmoil; So when people experience this psychological distress or the inevitable pain, they feel that there is no way to deal with this pain and consider suicide as a solution to reduce the pain and confusion. Therefore, ELE in the present study is motivated by pain to attempt suicide.

The results of the current study showed that PS has a positive and direct effect on the motives of suicide attempts. This finding is consistent with the results of Di Nota et al. (51), which reported that post-traumatic stress disorder, depression, anxiety, stress, and panic disorder is significantly associated with suicidal thoughts and plans. In explaining these results, it can be said that according to Joyner's interpersonal theory (16) and the three steps theory of Klonsky and May (20), suicide attempts may be made through three stages: (i) Feelings of PP and hopelessness that lead to suicidal thoughts, (ii) Low belonging, lack of communication with others, which leads to suicide planning and (iii) Suicidal capacity and ability as a result of indirect risk factors (intrinsic or inherent) and habitual. Unbearable and unavoidable PP is a common trigger in suicidal behavior arising from neutered psychological needs. People also face two sources of stress when faced with a major event or intense psychological stress. First, a stressful situation may threaten a person's life and health, and reduce individual care. Secondly, a person's reaction to the situation may be just as threatening. PS can also lead to suicide attempts (43). However, by causing pain and experiencing failure, disappointment, and impasse, along with extreme anxiety, turbulence, disturbed intolerance, and perception of situational and individual pressure, it can reduce controlling behavior. In addition, it reduces the ability to manage emotions and emotional-social and cognitive skills, including resilience, emotional regulation, and problem-solving. On the other hand, PP was a predictor of suicide among suicide attempters. People with major depression and a high risk of suicide reported greater PP than those with a low risk of suicide (52). These results can also be explained by the emotional burden associated with the COVID-19 pandemic. Increasing evidence supports the role of genetic and epigenetic factors associated with social context and associated diseases in the vulnerability of suicide attempts, and it seems that these conditions not only can exacerbate PS and negative emotions and pain perception

due to loneliness, reduced social relationships, and low belonging ability during the COVID-19 pandemic, but also can activate ideation, planning, and attempting suicide.

The results of the study showed that PP has a positive and direct effect on suicide motivation. Similar to this result, the study of Pompili and colleagues (43) with a distinct clinical view of the motivation for suicide attempts reported that PP may be the embodiment of an extraordinary experience of suffering, in which subjects may not have the right words to describe the experience (31). Researchers have argued that the need to evaluate PP and its association with PS, including in depressed people, points to the fact that psychological pain overlaps with some symptoms of PS, including depression, such as an overreaction to negative stimuli, feelings of guilt, painful rumination, or a decline in self-worth (53).

The strength of this first-step study is that, as far as we know, this research is one of the most extensive studies on the role of PP in explaining the variance of suicide motivation in suicide attempters based on PS and ELE. However, the limitation of this study is the type of research project that was cross-sectional, which does not allow us to investigate causality in the relationships between variables. In addition, in this research, self-report questionnaires caused response bias. In this study, the role of each variable was etermined based on evidence-based theories, therefore a fundamental step was taken toward applying theory in the framework of thought to action. It is suggested that in future studies, PP assessment be considered in patients with psychiatric diagnosis and take basic step to assess subjective pain and proportionate the type of interventions.

Implications for practice

The findings of the present study suggest that discussing ELE, reducing PS in at-risk groups, avoiding pain, and replacing it with adaptive coping skills can reduce the risk of suicide. PP acts as a threshold variable in the context of suicide. If the level of PP fluctuates in a range that does not exceed the threshold, it does not motivate suicidal thoughts. Pain alone does not lead to suicide. Therefore, if a person experiences a primary traumatic event or suffers from a psychological disorder such as depression, borderline personality disorder, severe anxiety, panic, substance abuse, and in severe cases of schizophrenia spectrum disorders, interaction with the reduced pain threshold can activate the motivation to attempt suicide both interpersonal and interpersonal. Recognizing the motivations of suicide attempts (hopelessness, psychache, escape, burdensomeness, low belongingness, fearlessness, interpersonal influence, help-seeking, and impulsivity) in the participating populations not only inform us about the motivations for suicide attempts, but also help therapists understand the motivation or the actions of suicide as an important element of evidence-based intervention in people with a history of attempted action.

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Conflicts of interest

The authors declared no conflict of interest.

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