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Research Article

Latent Class Analysis of Harm to Self and Others Behaviors (dual-Harm) and its Relationship with Adverse Childhood Experiences and Emotion Dysregulation

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Abstract

Background: Self-injury and aggression involve intentional harm to oneself and others, respectively, while their co-occurrence is termed dual-harm. In spite of the severe consequences of dual-harm, its dimensions and causes are not yet fully understood. Prevalence estimates vary considerably depending on the definitions employed, and studies tend to assess dual-harm by cross-tabulating responses to separate questionnaires, resulting in inconsistencies. Thus, a model-based strategy (latent class analysis) can be utilized to identify people involved in dual-harm and determine its associations with adverse childhood experiences and emotion dysregulation compared to self-injury and aggression alone.

Objectives: Given the severe consequences of self-harm and harm to others as well as the importance of identifying the factors affecting them, this study aimed to analyze the latent classes of self-harm and aggression together with their associations with childhood adversities and emotion regulation difficulties.

Methods: In a cross-sectional study, 288 adults from the general population completed online the short form of the Childhood Trauma Questionnaire, the Risky, Impulsive, and Self-Destructive Behavior Questionnaire, and the short form of the Difficulties in Emotion Regulation Scale. The data were analyzed using latent class analysis followed by regression analysis, using Mplus 8 and SPSS 26, respectively.

Results: Latent class analysis classified participants based on nine questions related to self-harm and harm to others, identifying four classes: high self-harm, high aggression, high dual-harm, and low in both. The results indicated that 12.2% of participants were prone to self-harm, 16.7% to aggression, and 3.1% to dual-harm. Subsequently, the results of the regression analyses revealed that while both childhood adversities and emotion regulation difficulties play a role in self-harm behaviors, aggression and dual-harm are influenced by patterns of childhood adversities. Emotional abuse (β=0.34, P<0.01), sexual abuse (β=0.24, P<0.01), and emotional neglect (β=-0.23, P<0.01) had a significant role in predicting dual-harm, explaining 28% of the variance.

Conclusion: The results demonstrated that the causal pathways leading to self-harm, aggression, and dual-harm are different. Unlike self-harm, emotion regulation problems do not predict dual-harm. Compared to aggression, dual-harm is caused by the combination of low emotional neglect and high sexual abuse alongside high emotional abuse. Thus, dual-harm is a unique problem requiring more accuracy in identification and intervention.

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Extended Abstract

Introduction

Self-injury refers to intentional acts of self-harm, irrespective of suicidal or non-suicidal intent. Aggression is behavior conducted with the intention of harming others. The simultaneous occurrence of self-harm and aggression during a person's life is known as dual-harm. In spite of the severe consequences of dual-harm, its dimensions and causes are not yet fully understood. Prevalence reports of dual-harm vary considerably with respect to the definitions employed for the two overlapping behaviors of self-injury and aggression, and it is unclear exactly which harmful behaviors should be subsumed under these broad terms. Studies tend to measure dual-harm through cross-tabulating responses to separate self-injury and aggression questionnaires. This method has led to problems in comparisons in the literature through creating inconsistencies in the measurements and conceptualizations of dual-harm. Thus, in the present study, a model-based strategy (latent class analysis) was utilized to identify people involved in dual-harm. Then, the results of the latent class analysis were applied in subsequent analyses to determine to what extent dual-harm is influenced by adverse childhood experiences and emotion dysregulation compared to self-injury and aggression alone.

Method

In the present research, latent class analysis was first employed, which belongs to mixed designs. Afterwards, the scores extracted from this method were applied in regression analysis, which belongs to correlation designs. The research population consisted of adults living in the community. According to the considerations related to determining the sample size in regression analysis and latent class analysis, as well as practical limitations, 288 people participated in the research. The sampling method was voluntary with the online link of the questionnaires in social networks being provided only to those who wanted to fill them and there was no compulsion to fill the questionnaires. The collected data were analyzed using latent class analysis followed by regression analysis using Mplus software version 8 and SPSS software version 26, respectively.

Results

Latent class analysis was employed to classify people based on answers to nine questions related to engaging in self-harm and harm to others behaviors. According to the fit indices, a model with 4 classes was selected as the best model. The first class consisted of people who were high in self-harm behaviors compared to harming others. The second class encompassed people who were high in harming others than self-harm behaviors. The third class consisted of individuals who had high scores in both self-harm behaviors and harm to others behaviors (dual-harm class). Ultimately, the fourth class consisted of people who scored low in both self-harm behaviors and harm to others behaviors. The results of regression analysis indicated that emotional abuse ($\beta=0.34$, $P<0.01$), sexual abuse ($\beta=0.24$, $P<0.01$), and emotional neglect ($\beta=-0.23$, $P<0.01$) have a significant role in predicting the probability of belonging to the dual-harm class. Twenty-eight percent of the total variance of the probability of belonging to the dual-harm class was explained by these variables.

Discussion

The results indicated that the causal path to self-harm and aggression behaviors is not the

same. In the same way, in spite of the similarity to self-harm and aggression behaviors, dual-harm can be a unique disorder with different causal factors. Indeed, on the one hand, the results revealed that, unlike self-harm, emotion regulation problems do not have a significant role in predicting dual-harm, and dual-harm is a different disorder from self-harm. On the other hand, compared to aggression, a different pattern of adverse childhood experiences influenced dual-harm. While the combination of high emotional neglect and low sexual abuse results in aggression, dual-harm is caused by the combination of low emotional neglect and high sexual abuse alongside high emotional abuse. Thus, it can be stated that dual-harm is a unique problem and owing to the serious consequences it can have compared to self-harm and aggression alone, it requires more accuracy in identification and intervention, especially in clinical and preventive settings where early detection may lower long-term harm and ameliorate overall outcomes for affected individuals as well as their families.

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