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ORIGINAL RESEARCH

Understanding Shame-Driven Aggression: The Roles of Externalization of Blame and Hostility in Chinese Adolescents

Jing Liang[1], Yu Wang[2], He Wang[3], Yu-Hsin Chen[3], Yu-Wei Wu[4], Wen-Jing Yan[5]

[1]College of Education, Hebei Normal University, Shijiazhuang, 050024, People's Republic of China; [2]Department of Education and Psychology, Tianjin University of Sport, Tianjin, 301617, People's Republic of China; [3]School of Mental Health, Wenzhou Medical University, Wenzhou, 325035, People's Republic of China; [4]Student Affairs Division, Wenzhou Business College, Wenzhou, 325035, People's Republic of China; [5]Zhejiang Provincial Clinical Research Centre for Mental Illness, Affiliated Kangning Hospital, Wenzhou Medical University, Wenzhou, People's Republic of China

Correspondence: Yu-Wei Wu, Student Affairs Division, Wenzhou Business College, Wenzhou, 325035, People's Republic of China, Email wyw@wzbc.edu.cn; Wen-Jing Yan, Zhejiang Provincial Clinical Research Centre for Mental Illness, Affiliated Kangning Hospital, Wenzhou Medical University, Wenzhou, People's Republic of China, Email yanwj@wmu.edu.cn

Background: Shame-proneness, particularly in adolescence, is a critical psychological construct linked to aggressive behavior. This study addresses the gap in understanding the specific mechanisms of this relationship within the cultural context of Chinese adolescents.

Aim: The study aims to explore the mediating roles of hostility and externalization of blame in the connection between shame-proneness and aggression among Chinese adolescents.

Methods: A comprehensive sample of 1489 Chinese adolescents participated in the study. They completed the Test of Self-Conscious Affect for Adolescents to assess shame-proneness and an aggression questionnaire to measure aggressive behaviors. The study utilized network analysis and mediational analysis, to unravel the complex interactions between shame-proneness, externalization of blame, hostility, anger, and aggression.

Results: The results identified two distinct pathways linking shame-proneness to aggression: one mediated by hostility and the other by externalization of blame. The pathway via hostility was particularly pronounced, marking it as a central node in the shame-aggression relationship. Interestingly, the study also revealed a direct, though less pronounced, inhibitory effect of shame-proneness on aggression, indicating a dualistic role of shame in adolescent behavior. These findings were consistent across different demographic subgroups, suggesting a generalizable pattern in the studied population.

Conclusion: The dual nature of shame-proneness, as both an inhibitor and a facilitator of aggression, underscores the need for culturally sensitive approaches in psychological interventions and future research. The central role of hostility in this relationship points to potential targets for therapeutic interventions aimed at mitigating aggression in adolescents.

Keywords: shame-proneness, aggression, network analysis, hostility, externalization of blame

Introduction

Shame, a complex and often painful self-focused affect, has been a topic of interest for many years.[1] It encompasses feelings of inferiority, exposure, and powerlessness, coupled with a compelling desire to hide one's real or perceived flaws.[2] Arising primarily from moral transgressions or experiences of incompetence, shame is marked by cognitive dissonance, speech inhibition, and persistent rumination.[3] Its functions are multifaceted, serving both maladaptive and adaptive purposes in human behavior.

Research indicates that moderate levels of shame incorporate substantial libidinal components, playing an adaptive role in motivating and regulating thoughts, emotions, and behaviors. This level of shame can drive individuals towards diligence in achievement and task-oriented domains, and foster morally and socially appropriate conduct in interpersonal interactions and intimate relationships.[4] In contrast, extreme levels of shame are characterized by more aggressive

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features and are linked to destructive behaviors, including heightened aggression. Individuals with a high propensity for shame are more inclined towards negative and destructive responses.[1,2]

Elison et al[1] introduced the Compass of Shame model, positing that individuals experiencing shame may, or may not, acknowledge this negative self-perception. Typically, they often attempt to deflect these feelings onto others as a means to reinforce their own self-image and externalize the shame. Frequent experiences of shame may eventually crystallize into trait-like shame-proneness.[5] In states of powerlessness and distress, shame-prone individuals may resort to blaming others, particularly when their sense of self feels threatened. This mechanism of externalizing responsibility is a potential precursor to aggressive behavior.[6] Tangney et al[7] found that this externalization of blame which describes a style of thinking whereby individuals blame others for negative events and deny personal responsibility[8] might mediate the relationship between shame-proneness and aggression.

Further, theorists like Thomaes et al[9] have posited that individuals prone to shame are more likely to experience hostility and anger, thereby increasing the likelihood of engaging in aggressive behaviors. Hostility and anger are independent constructs, which can be viewed as antecedents to aggression. Hostility has been used to emphasize cognitive/attitudinal aspects, such as viewing others and the world antagonistically.[10,11] Anger represented the emotional component of aggression.[12] Tangney et al[13] observed that individuals with high shame proneness exhibited greater expressions of indirect hostility and trait anger compared to their less shame-prone counterparts. Subsequent research has corroborated these findings, linking shame-proneness with hostility, anger, and anger-related behaviors such as psychological abuse and punitive desires.[2,14] The concept of "shamed anger", as discussed in psychoanalytic literature,[15] suggests that individuals experiencing this emotion project their internal hostility outwards. This projection can lead to hostile cognition in situations inducing shame, ultimately eliciting feelings of anger and aggressive behaviors.

In summary, a large body of correlational and experimental studies has found that shame is associated with externalizing tendencies such as externalization of blame, anger, resentment, hostility, and aggression toward others. Almost all of the research on the relationship between shame and externalizing tendencies has been conducted in North American, Western Europe, and Australia. However, the experience of shame is nevertheless culture-specific in terms of its perception, experience and expression. Shame for Westerners appears to have no necessary connection with moral belief. For Chinese, maintaining one's place or identity in the social hierarchy is a duty which is connected to moral belief since the social hierarchy is part of the natural cosmic order.[16] As with Western shame, the central issue of Chinese shame is identity. However, Chinese shame is different from Western shame in that there is a central difference between Western, particularly American, and Chinese self-concept. Cross-cultural evidence suggests that while shame is associated with externalizing tendencies in both Western and Asian cultures, these associations are generally weaker in Asian samples compared to American samples.[17] In the context of American children, shame-proneness has been found to positively predict anger-proneness, with this relationship being mediated by the externalization of blame. Conversely, among Japanese children, shame-proneness does not predict anger-proneness directly but does positively predict the externalization of blame.[18] Other study also found that the manifestation of shame-related anger is not universal but varies depending on cultural interpretations of these emotions. For instance, Kirchner et al[19] found a positive association between shame and anger in North American cultural contexts, contrasting with findings in Japanese contexts, where this relationship was not evident.

The current literature lacks a comprehensive understanding of how shame and aggression are culturally understood and expressed among Chinese adolescents. This gap is significant because cultural nuances can profoundly influence the manifestation and interpretation of emotions. In China, where collectivist values emphasize social harmony and interdependence, the experience and expression of shame might differ from both Western and other Asian contexts. The present study aims to address this gap by exploring the specific ways in which shame and aggression are understood and expressed among Chinese adolescents. By doing so, we hope to provide a more nuanced understanding of the cultural context in which these emotions operate and contribute to the broader literature on emotion regulation and social behavior in different cultural settings. Utilizing both a data-driven, bottom-up network analysis approach and a theory-driven, top-down model, this research seeks to elucidate the psychological processes underlying these dynamics. Another particular focus will be on the role of externalization of blame and hostility. To guide this investigation, the following hypotheses are proposed:

H1: Shame-proneness will positively predict aggression.

H2: The relationship between shame-proneness and aggression will be mediated by the externalization of blame.

H3: The pathway from shame-proneness to aggression will be mediated by hostility.

Method

Sample

After obtaining the consent of school as well as students, the test was conducted on a class-by-class basis. This study's participants comprised 1570 adolescents recruited from various middle and high schools in Linyi, China. Eighty-one questionnaires were excluded with incomplete or regular responses. Questionnaires with 1489 adolescents were included in the present study. The age range was 13 to 18 years, with an average age of 15.15 years (*SD* = 1.81). The sample included 687 males (46.17%) and 802 females (53.83%). The distribution across educational levels was as follows: 282 students (18.94%) in the first year of junior high school, 199 students (13.36%) in the second year, 222 students (14.91%) in the third year, 269 students (18.07%) in the first year of senior high school, 263 students (17.66%) in the second year, and 254 students (17.06%) in the third year.

Measures

Two psychometric instruments were administered: the Test of Self-Conscious Affect for Adolescents (TOSCA-A[20]) and the Buss–Warren Aggression Questionnaire (BWAQ[21]).

The TOSCA-A comprises 15 scenarios (10 negative, 5 positive) relevant to adolescent experiences. Each scenario is accompanied by response options assessing five dimensions: shame- and guilt-proneness, externalization, detachment/unconcern, alpha-pride, and beta-pride. For this study, we focused exclusively on items measuring shame-proneness and externalization. Participants rated their likelihood of responding as depicted in each scenario on a five-point scale (1 = very unlike me to 5 = very like me). An example of a scenario is "At lunchtime, you trip and spill your friend's drink". The shame response is "I would be thinking that everyone is watching me and laughing". The Chinese translation of the TOSCA-A was conducted by Ma et al,[22] ensuring cultural relevance and linguistic accuracy. The internal consistency for the shame dimension was 0.85 and 0.73 for externalization, the latter being slightly low but comparable to initial reports by Tangney et al.[20]

The BWAQ is a widely recognized instrument for assessing self-reported aggression. Its Chinese version was adapted through meticulous translation and validation processes. The questionnaire contains 34 items covering five domains: physical aggression (eg, "Once in a while I can't control the urge to strike another person"), verbal aggression (eg, "I can't help getting into arguments when people disagree with me"), anger (eg, "I sometimes feel like a powder keg ready to explode"), hostility (eg, "When people are especially nice, I wonder what they want"), and indirect aggression (eg, "When I'm angry and leave someone's room, I slam the door very hard"). Responses were recorded on a five-point scale ranging from "Not at all like me" to "Completely like me". The Cronbach's alpha coefficients were satisfactory, indicating good reliability: 0.86 for physical aggression, 0.60 for verbal aggression, 0.70 for indirect aggression, 0.72 for anger, and 0.77 for hostility.

Network Analysis

We employed a Gaussian graphical model (GGM) to construct a network analysis, utilizing the R package "qgraph" (version 1.9.2) and R Core Team (version 4.1.3). This analysis was grounded in partial correlation networks. In our network model, nodes represented constructs like shame-proneness, externalization of blame, hostility, anger, and aggression. The edges, indicating the relationships between these constructs, were represented by regularized partial correlation coefficients. The thickness of an edge denoted the strength of the association.

We applied the graphical lasso algorithm, an essential aspect of GGM, to enhance interpretability and network stability. This algorithm reduces smaller and less significant correlations to zero, preventing overfitting and highlighting more robust relationships. The Fruchterman-Reingold (FR) algorithm arranged the nodes, drawing those with stronger

average relationships towards the center. The network's stability and centrality were also scrutinized using both the "qgraph" and "bootnet" packages in R, incorporating glasso regularization and an EBIC model as suggested by Foygel and Drton.[23]

The FR algorithm, a force-directed graph method resembling a system of balls connected by elastic strings, was utilized to plot the network. This method aims to clarify the network's edges and clustering structures. Additionally, we employed multi-dimensional scaling (MDS) to render the network more comprehensible. MDS visualizes distances between nodes in a low-dimensional space, aiding in understanding network structures.

Centrality measures were used to determine the interconnectedness of specific symptoms within the network.[24,25] Nodes with high centrality potentially indicate a greater risk within the network, as activation of one symptom can rapidly affect others. This can lead to a cascading effect, possibly resulting in more chronic symptomatology.[26]

Stability of centrality indices was assessed using case-dropping bootstraps (n = 1000) via the "bootnet" package. A centrality measure was deemed unstable if correlations significantly decreased when participants were removed. The stability was quantified using the CS coefficient, which gauges the maximum proportion of cases that can be dropped while retaining a strong correlation with the original centrality measure.

Mediational Analyses

Meditational analyses were carried out via Amos 17.0.

Common Method Biases Test

Using the Harman one-way test, that is, exploratory factor analysis for all questions, the results showed that there were 10 factors with eigenvalues greater than 1 and the variation of the first factor was only 10.32%, according to the judgment criteria of Ashford and Tsui, if multiple factors with eigenvalues greater than 1 were obtained and the variation of the first factor was not more than 40%, it indicated that the variation of the common method was not serious.

Ethics Approval and Consent to Participate

This study adhered to the ethical standards of relevant national and institutional guidelines on human experimentation, in line with the Helsinki Declaration of 1975, as revised in 2008. All procedures involving human subjects were approved by the Institutional Review Board of Hebei Normal University (Approval Number: 2023LLSC065).

Results

Zero Order Correlations and Descriptive Statistics for All Variables

Shame-proneness was positively correlated with externalization of blame, hostility, anger as well as physical, verbal and indirect aggression (Table 1).

Table 1 Zero Order Correlations and Descriptive Statistics for All Variables

Variable	*M*	*SD*	Correlations						
			1	2	3	4	5	6	7
1.Shame-proneness	58.79	11.72	1						
2.Externalization of blame	33.24	6.58	0.25***	1					
3.Hostility	21.32	6.46	0.39***	0.30***	1				
4.Anger	17.99	5.69	0.28***	0.24***	0.64***	1			
5.Physical aggression	15.78	6.97	0.15***	0.36***	0.58***	0.63***	1		
6.Verbal aggression	14.18	3.55	0.16***	0.18***	0.54***	0.52***	0.46***	1	
7.Indirect aggression	13.94	4.81	0.23***	0.37***	0.63***	0.59***	0.69***	0.46***	1

Note: ***$p < 0.001$.

Network Analysis Results

The network analysis revealed intricate relationships among shame-proneness, externalization of blame, hostility, anger, and aggression. Figure 1 illustrates a circular network diagram, providing a visual representation of these relationships. In the network, the weight on each edge signifies the strength of the association. Notably, the connection between shame-proneness and hostility (weight = 0.28) was stronger compared to that between shame-proneness and externalization of blame (weight = 0.17). To gain deeper insights into the shame-proneness and hostility relationship, an item-level network was constructed, as depicted in Figure 2.

The MDS network shows that hostility, anger, and the various forms of aggression (physical, verbal, and indirect) cluster together, indicating a strong interrelation. Conversely, shame-proneness and externalization of blame are situated distantly, suggesting a weaker association.

Centrality indices in the network were scaled relative to the highest value obtained for each metric. Hostility emerged as the most central node, indicating the strongest overall connection to other nodes in the network. Additionally, hostility ranked highest in both closeness and betweenness centrality measures, signifying its proximity to all other nodes and its role as a crucial intermediary in the network pathways. Regarding expected influence, which accounts for both positive and negative directional relationships, hostility exhibited the most positive influence, while shame-proneness displayed the most negative influence on the network.

The stability of the centrality indices was evaluated using the Correlation Stability (CS) coefficient. The CS coefficient value is ideally above 0.5 and should not fall below 0.25 for a stable metric. In our study, the CS coefficient for betweenness centrality [CS (cor = 0.7) = 0.36] indicated relative stability. Moreover, the closeness, node strength, and expected influence indices [CS (cor = 0.7) = 0.75] exceeded the 0.5 threshold, affirming their stability in the network.

The network analyses demonstrated robustness across different gender and grade groups, maintaining consistent overall structures while revealing specific variations in centrality measures. This underscores the stability and reliability of the psychological and behavioral networks examined (See Figures S1–S8). Figure S1 illustrates that the estimated network structures for males and females are similar overall, with notable differences in the significance of specific connections, indicating that gender influences these relationships. Figure S2 highlights gender-based differences in

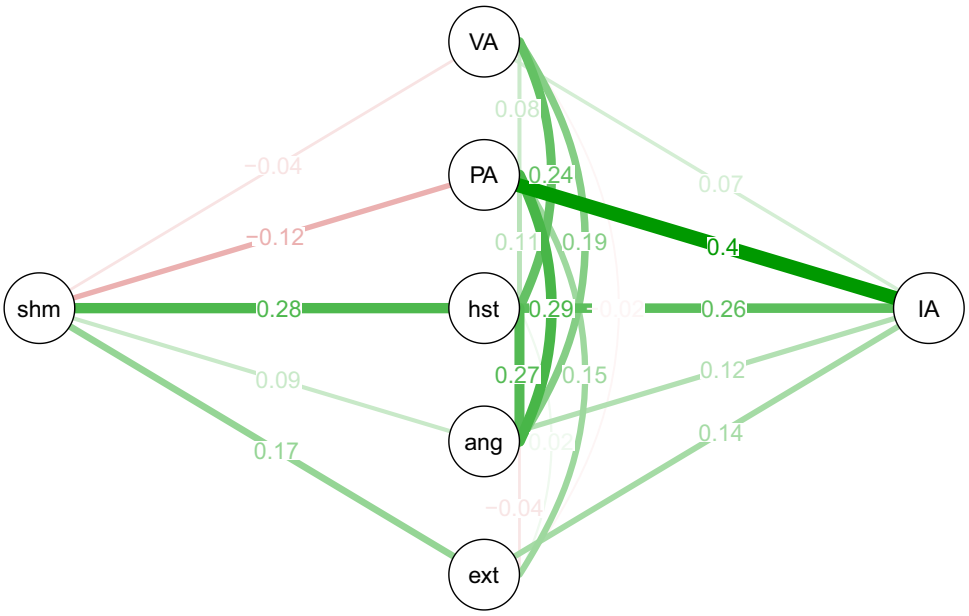

Figure 1 Estimated network structure, based on a sample of 1489 adolescents. The network structure is a GGM, which is an undirected network of partial correlation coefficients. Green edges represent positive correlations and red edges indicate negative correlations. The thickness of the edge reflects the magnitude of the correlation. The network structure is shown with a "circle" layout for easy viewing, but it is important to note that the node positions do not indicate Euclidean distances. *shm* is shame-proneness, *ext* is externalization of blame, *hst* is hostility, ang is anger, *PA* is physical aggression, *VA* is verbal aggression, and *IA* is indirect aggression.

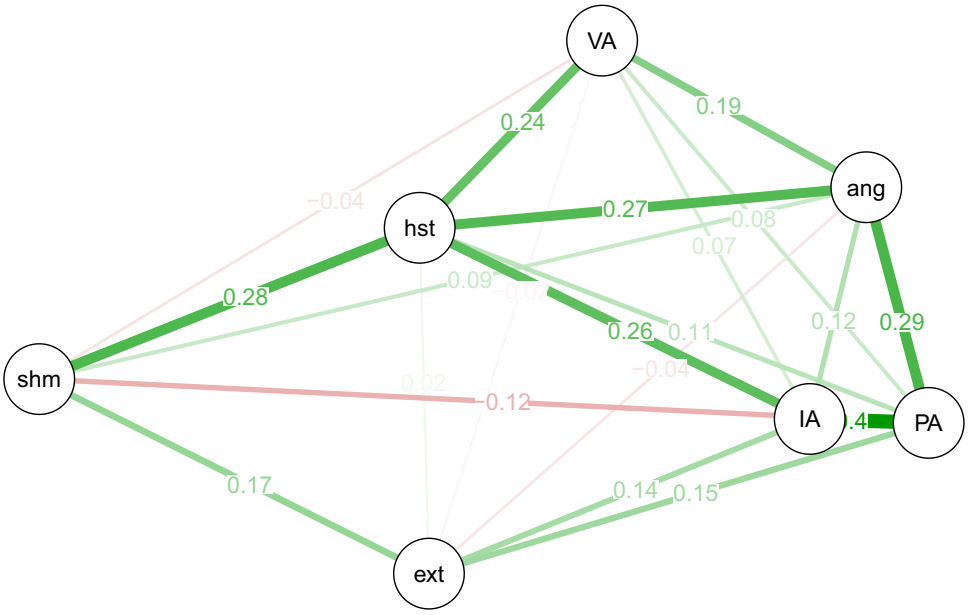

Figure 2 Network structure with MDS, showing proximities between variables as distances between points in a low-dimensional space.

centrality indices, showing certain nodes with higher centrality in one gender compared to the other. Figure S3 confirms the stability of these gender-based network structures through bootstrap sampling results, demonstrating that observed differences are not due to sampling variability. Figure S4 evidences that centrality measures are consistent and reliable across different sampling ratios, reinforcing the robustness of the findings.

For the grade-based analyses, Figure S5 shows that the network structures for younger and elder groups are consistent overall, yet with distinct variations in the significance of specific connections, indicating age influences these relationships. Figure S6 reveals grade-specific patterns of influence, with certain psychological variables being more central in one age group compared to the other. Figure S7 supports the stability of these grade-based network structures through bootstrap sampling results, confirming the robustness of the observed differences. Figure S8 demonstrates that centrality measures are reliable across different sampling ratios, underscoring the robustness of the findings.

Mediational Analyses

Based on theory and network analysis results, we conducted the mediational analyses to test the simple, parallel hypotheses: the relationship between shame-proneness and physical as well as indirect aggression will be mediated by externalization of blame; the relationship between shame-proneness and physical, verbal as well as indirect aggression will be mediated by hostility; the relationship between shame-proneness and physical, verbal as well as indirect aggression will be mediated by hostility and anger; the relationship between shame-proneness and anger is not significant.

The results are presented in Figure 3, which shows that shame-proneness inhibited physical aggression, $\beta = -0.11$, $t = -5.52$. Externalization of blame was a significant mediator for physical and indirect aggression, $\beta = 0.05$, $SE = 0.01$, bootstrap 95% CI [0.03, 0.07]; $\beta = 0.05$, $SE = 0.01$, bootstrap 95% CI [0.03, 0.06]. Hostility was a significant mediator for physical, verbal, and indirect aggression, $\beta = 0.12$, $SE = 0.01$, bootstrap 95% CI [0.09, 0.14]; $\beta = 0.14$, $SE = 0.01$, bootstrap 95% CI [0.11, 0.17]; $\beta = 0.15$, $SE = 0.01$, bootstrap 95% CI [0.13, 0.18]. Hostility and anger were significant mediators for physical, verbal, and indirect aggression, $\beta = 0.11$, $SE = 0.01$, bootstrap 95% CI [0.09, 0.13]; $\beta = 0.07$, $SE = 0.01$, bootstrap 95% CI [0.06, 0.09]; $\beta = 0.08$, $SE = 0.01$, bootstrap 95% CI [0.06, 0.10]. No relationship was found between shame-proneness and anger, $p = 0.17$. We used Amos 17.0 to test the full model. The fitting index of the model was good: $\chi 2/df = 5.86$, GFI = 0.99, CFI = 0.99, TLI = 0.95, RMSEA = 0.08.

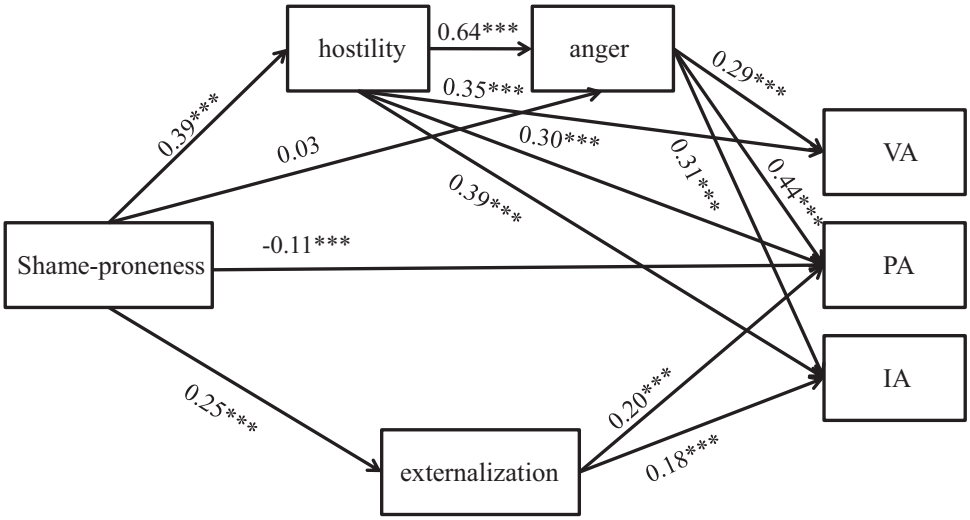

Figure 3 Results of the mediational model, ***$p < 0.001$.

Discussion

This study, adopting a network analysis approach, has elucidated the complex interplay among shame-proneness, externalization of blame, hostility, anger, and aggression. Integrating network analysis with mediational models, our findings highlight that shame-proneness directly and negatively predicts physical aggression. Further, mediational analyses reveal that shame-proneness fosters physical and indirect aggression through its association with externalization of blame. Additionally, shame-proneness predicts physical, verbal, and indirect aggression through its linkage to hostility, and the subsequent connection between hostility and anger.

Two Paths from Shame-Proneness to Aggression

Our research identifies two primary pathways connecting shame-proneness to aggression. The first pathway is mediated through hostility, while the second involves the externalization of blame. Network analysis pinpointed hostility as a pivotal node, bridging shame-proneness and various forms of aggression. Hostility is characterized by cognitive and attitudinal dimensions that frame others and the environment in antagonistic terms.[10] Hostility communicates the intention to overtly or covertly harm an individual and includes aggressive motor responses, as well as expressive characteristics that indicate potential intent for physical aggression, and assault, such as physically attacking an individual.[27] Hostile expressions could potentially elicit high physiological arousal (skin conductance, heart rate) and fearful facial-emotional responses. The emergence of hostility in shame-prone individuals may stem from feelings of being ridiculed or demeaned. Shame, a "communal" emotion, is often triggered by public awareness and disapproval of an individual's perceived faults or transgressions. This public aspect of shame could lead individuals to perceive ridicule from others, potentially driving them to aggressive behaviors as a defense mechanism.

The externalization of blame is another significant pathway linked to antisocial and aggressive behaviors. Individuals exhibiting aggressive or antisocial tendencies often employ cognitive distortions to rationalize their actions.[28,29] Blaming others, societal institutions, or environmental factors is a common tactic. Consistent with attribution theory and cognitive dissonance theory, directing blame to others, shame is avoided and the self is protected. Researches have shown that shame-prone children are more likely to externalize blame, indicating that, in order to minimize painful feelings raised by threats to self-esteem, feelings of shame may be regulated by externalization of blame.[30] These distortions are not mere after-the-fact justifications but are ingrained beliefs and attitudes that actively contribute to antisocial conduct, particularly aggression.

Moreover, shame is considered among the emotions that are more difficult to regulate.[31] Study has shown that trait shame was linked with emotional suppression.[32] Expressive suppression involves an attempt to inhibit or reduce the outward expression of an ongoing emotional experience. This is important, because adopting maladaptive emotion

regulation strategies for shame may ultimately lead to both internalizing (eg, psychological distress) and externalizing (eg, aggression) psychopathological symptoms.

The Dual Nature of Shame

Our study suggests that the experience of shame possesses a dualistic character, acting both as a vulnerability and a potential strength, depending on the context. On one hand, shame, functioning as an emotional indicator of potential social exclusion, activates affective discomfort akin to physical pain. Consequently, social pain, much like physical pain, triggers fundamental threat-response behaviors: fight, flight, or freeze. This indicates a potential biological interplay between shame and anger/aggression as mechanisms for threat management. Therefore, shame can be detrimental, fostering a tendency in individuals to externalize blame, exhibit hostility, and experience anger, all of which are risk factors for aggression. However, shame also demonstrates a capacity to directly mitigate physical aggression. This is supported by recent studies which indicate that shame can activate an approach motivation, particularly when such actions are geared towards rectifying past failures and rebuilding a positive self-perception.[33–37] This highlights a more adaptive aspect of shame, where individuals might initially react with externalization of blame, hostility, and anger, leading to aggression. However, in the absence of these reactions, shame can function positively to curb aggression.

The contrasting pathways of shame are better understood through the lens of concealment or avoidance, rather than solely as a negative self-evaluation. The cognitive-emotional experience of shame, encompassing negative self-evaluation, naturally leads to tendencies of concealment or avoidance. These behavioral responses are more closely related to downstream effects, such as aggression, than to the primary emotional experience of shame.[1] Therefore, it is consistent that the direct behavioral avoidance aspect of shame shows the strongest influence pattern in our network analysis. Specifically, behavioral avoidance directly curtails aggression and, via the route of externalization of blame, impacts hostility and anger. Future research should delve deeper into the specific mechanisms by which behavioral avoidance directly inhibits aggression.

The Relationship Between Shame-Proneness and Anger

Shame can be conceptualized as a type of social pain, an adaptation where the mechanism for physical pain is repurposed to signal social threats.[31,38] This often culminates in anger and/or aggression. However, the interplay between shame and anger appears to be culturally contingent. As posited by various theorists,[39–41] the experience and functional roles of shame and anger vary significantly across cultures. For instance, Asian American populations, including students and adults, reportedly experience shame more intensely compared to their non-Asian American counterparts.[41] Asian adolescents are introduced to the concept of shame at a younger age and tend to perceive it as less severe than Americans do.[42] In these cultural contexts, shame serves not only to uphold social harmony but also encourages individuals to develop esteemed skills and foster attributes like self-control, autonomy, and mutual respect. Conversely, in Chinese culture, expressing anger is often discouraged as it may disrupt social harmony.[43] Anger avoidance was implicated by the ideal of social harmony. Anger-eliciting situations were perceived to occur rarely in China, while shame-eliciting situations were perceived to occur frequently, this is in line with the Chinese goals of harmony maintenance and self-improvement. In face-cultures, such as China, face cannot be claimed but is obtained by social conferral only; this explains why shame-promoting, but not anger-promoting situations were perceived as frequent in China.[44] Hence, in this context, there is not a straightforward link between shame-proneness and anger.

Based on our findings, several interventions could be designed to address aggression in adolescents. Cognitive-behavioral therapy (CBT) could help individuals develop healthier ways of coping with shame and reducing hostile attributions. Mindfulness-based interventions might also be effective in promoting emotional regulation and reducing impulsive reactions.

Limitations

This study has several limitations. Firstly, while it suggests that shame may have both positive and negative associations with aggression, examining moderating variables could provide deeper insight into these seemingly contradictory relationships. Two indices of emotion management (emotion regulation and negative emotionality) might moderate the

effects of shame and externalization of blame on aggression. Results indicated that shame was associated with lower levels of aggression for children with poor emotion regulation or high negative emotionality. For children with effective emotion regulation (or low negative emotionality), shame and externalization of blame were associated with higher levels of aggression. The results suggest that a dark side may be apparent in effective emotion regulation (and low negative emotionality) in that it enables children to disengage from the normally inhibiting function of shame and to act aggressively in response to shame and externalization of blame.[45] Secondly, employing subscales from the same instruments for both predictors and mediators may have inflated the results due to shared method variance. This necessitates cautious interpretation of the findings. It is important to test common method bias. The best to avoid or reduce the effects of common method bias is to collect measurements of different conformations from different sources. Thirdly, the absence of a cross-cultural comparison in this study limits the scope of our conclusions regarding cultural influences on the shame-anger nexus. Future cross-cultural research could more definitively address this question.

Conclusion

Overall, this study contributes to the literature by establishing a mediational model based on theory and network analysis that will help to clarify the relationships between shame-proneness, externalization of blame, hostility, anger and aggression. The results show that shame-proneness has a constructive potential to inhibit aggression, but also a destructive potential to positively predict aggression via externalization of blame, hostility and anger. Shame can be maladaptive, for example, when the person accepts the view of others as the only way of approaching to a particular issue (eg, viewing a "disability" as terrible). Yet, shame can also be adaptive, if this feeling motivates the individual to commit to change and thereby helps to resolve the shame experienced.[46] Therefore, shame can be dysfunctional or functional depending on how effectively it is regulated. Due to the absence of a cross-cultural comparison, future study should be more definitively address the impacts of shame in different culture.

Data Sharing Statement

Data are available from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate

Ethical approval for this study was obtained from IRB in Hebei Normal University (2023LLSC065). Informed consent was obtained from all subjects, and for minors, consent was obtained from their legal guardian(s).

Ethical Guidelines

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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Disclosure

The authors declare that they have no competing interests in this work.

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