ARTICLE

Subjective Social Status and Shaming Experiences in Relation to Adolescent Depression

Cecilia Åslund, BA; Jerzy Leppert, PhD; Bengt Starrin, PhD; Kent W. Nilsson, PhD

Objective: To investigate the associations among social status, shaming experiences, and adolescent depression using a status-shaming model.

Design: Population-based, self-report cohort study.

Setting: Västmanland, Sweden.

Participants: A cohort of 5396 students in grade 9 (age 15-16 years) and the second year of high school (age 17-18 years).

Intervention: Participants completed the anonymous questionnaire Survey of Adolescent Life in Västmanland–2006 during class hours.

Main Outcome Measures: We investigated the prevalence of depression according to the Depression Self-Rating Scale of the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision), A-criterion, regarding subjective social status, shaming experiences, and social background. Social status was measured as (1) attributed status of a family's socioeconomic and social standing and (2) acquired status of peer group and school. Binary logistic regressions were used for the analyses.

Results: Shaming experiences and low social status interacted with depression. If shaming experiences were present, participants with both high and low attributed status were at increased risk for depression (odds ratio [low and high groups, respectively], 5.4-6.9), whereas medium status seemed to have a protective function. For acquired status, the highest elevated risk was found in participants with low status (odds ratio [girls and boys, respectively], 6.7-8.6).

Conclusions: Social status may influence the risk for depression when an individual is subjected to shaming experiences. The present study contributes to the mapping of the influence of social status on health and may have essential implications for understanding, preventing, and treating adolescent depression.

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Author Affiliations: Centre for Clinical Research, Uppsala University, Central Hospital of Västerås, Västerås (Ms Åslund and Drs Leppert and Nilsson), and Department of Social Studies, Karlstad University, Karlstad (Dr Starrin), Sweden; and Faculty of Health and Social Studies, Lillehammer College, Lillehammer, Norway (Dr Starrin).

THE SOCIAL STATUS GRADIENT of health is a well-known phenomenon,[1-7] presumably influencing health and mortality in all groups and hierarchies of society. Social status may be defined as hierarchical position in relation to that of other individuals in a society or social context but can also refer to power, authority, or prestige. In human beings, sensitivity to status and the capability to evaluate relations to other persons and what they think of us are characteristics of a social being.[8] From an evolutionary perspective, low social status may be seen as a potential threat to survival because it could mean less access to resources, less opportunity to mate, and less opportunity to cooperate with others. In the modern world, however, low social status may be more connected to symbolic threats to self, thus providing a major source of chronic stress[2,9-11] and presumably altering neuroendocrine functions associated with, for example, depression,[12,13] obesity,[14] and untimely death.[1,7] High social status has repeatedly been shown to be a protective factor against ill health and death in adult populations.[1,2,4] The mechanisms between social status and health in younger populations are, however, not yet sufficiently explored. Shame may be seen as closely related to status and has been defined as an emotion signaling threat to our social bonds to other persons.[15-17] Losing status and attractiveness or being rejected or excluded from a group or relationship one wishes to be part of is a common source of shame.[18] Although feelings of shame and pride are important factors in a person's evaluation of self and have served a purpose of social control and behavior regulation in civilizations throughout history,[19,20] experi-

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ences of being repeatedly subjected to humiliation, ridicule, and social exclusion by other persons may result in toxic shame and stigmatization. Toxic shame may form a basis for psychologic and physical pathologic reactions, presumably through chronic stress.[21]

It has been suggested that persons of low social status are particularly vulnerable to acts of humiliation and disrespect from others,[22] possibly as a cause of having weaker status shields, that is, less access to social and emotional capital, that would make them more sensitive to insults.[23] A previous study of status, shame, and aggressive behavior in adolescents showed a strong protective function of medium status in the association between shaming and aggressive behavior.[24] It may be that status shields differ between age groups. Adolescence is characterized by a strong urge to conform to the peer group and not stand out or differ from others.[25] Thus, conformity in the form of medium social status may be a protective factor in the association between humiliation and depression in adolescent populations.

We propose herein a status-shaming model in which an individual's social status position may moderate the effects of shaming experiences in the prediction of depression. We will investigate the relational aspect of feelings of shame by examining whether an individual has experienced, for example, ridicule and insult. The term we use for this is "shaming experiences."

Our hypotheses are that (1) shaming experiences increase the risk for depression, (2) occurrence of depression differs depending on subjective social status, (3) there is an interaction between subjective social status and shaming experiences in which risk for depression in association with shaming experiences differs depending on social status, and (4) individuals with low or high subjective social status exhibit a higher risk for depression after shaming experiences compared with individuals with medium subjective social status.

METHODS

PARTICIPANTS

This study was part of the Survey of Adolescent Life in Västmanland–2006, a survey regularly distributed by the County Council of Västmanland, Sweden, to monitor the psychosocial health of the county's adolescent population. All students in grade 9 (age 15-16 years) and the second year of high school (age 17-18 years) comprised the target population. The 5451 students completed the survey during class hours. Participation was voluntary and anonymous. Fifty-five participants did not state their sex and were excluded from the study, leaving 5396 subjects. There were 1608 adolescent boys and 1549 adolescent girls participating in grade 9 and 1200 adolescent boys and 1039 adolescent girls participating in the second year of high school. Participation was generally high, with an overall response rate of 80.3% of the total population and 97.7% internal (form) response rate. The study was approved by the regional ethical review board of Uppsala University, Uppsala, Sweden.

DEMOGRAPHIC DATA

Demographic data were obtained and assigned a numeric value, as follows: sex (male, 0; female, 1), whether both parents were born in Sweden or Scandinavia (0) or at least 1 parent was born outside of Scandinavia (1), whether the parents were living together (0) or were separated or divorced (1), whether both parents were working (0) or 1 or both parents were unemployed (1), and whether the student was living in a single-family house (0) or a multifamily house (1).

SHAMING EXPERIENCES

The participants were asked 2 questions: (1) Have you during the last 3 months experienced that someone has made you an object of ridicule in front of others? and (2) Have you during the last 3 months experienced that someone has insulted your dignity? The answer alternatives were: 0, no; 1, rather seldom; 2, sometimes; 3, rather often; and 4, almost always. A summation index of the 2 questions was created with a range of 0 to 8 points. We then divided participants into 2 groups on the basis of frequency of shaming experiences. In the shaming groups, 0 to 2 points counted as less shaming experiences (0) and 3 or more points counted as more shaming experiences (1).

SOCIAL STATUS

We used a modified version of the scale of Goodman et al[26] of adolescent social status in which we formulated questions about 4 different contexts of perceived social status. Goodman et al[26] pointed out that traditional measures of socioeconomic status (SES) define a person's social position; however, for adolescents, this would apply to the parents' SES rather than the adolescent's own SES. They suggest that the social position of the school community would be a better measure of adolescent social status because peer norms, perceptions, and behaviors are such strong determinants of adolescent life.[26] With this reasoning, we specified 2 categories of adolescent social status: (1) *attributed status*, that is, the family's SES and societal position, which the adolescent is born into and has little or no means to influence and (2) *acquired status*, that is, the social status in the peer group and school environment, which the adolescent has acquired by himself or herself in social interaction with others. The status position depends on how successful this interaction has been.

The variable for attributed status was constructed from 2 questions scored on a 7-point Likert scale: (1) family SES: Imagine society as being like a ladder. At the bottom are those with the least money, and at the top are those with the most money. If you think about how wealthy your own family is compared with the rest of society, where would you place your family on this scale? and (2) family social standing: Imagine society as being like a ladder. At the bottom are those with the lowest standing/position and at the top are those with the highest standing/position. If you think of the standing/position of your family compared with the rest of society, where would you place your family on this scale?

The variable for acquired status was constructed from 2 questions scored on a 7-point Likert scale: (1) peer group status: Think about your standing/position in your group of friends. At the bottom of the scale are those with the lowest standing/position in the group, and at the top are those with the highest standing/position. Where would you place yourself on this scale? and (2) social status at school: Think about your social standing/position among your schoolmates. At the bottom of the scale are those with the lowest standing/position and at the top are those with the highest standing/position at school. Where would you place yourself on this scale?

DEPRESSION

We used the Depression Self-Rating Scale of the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision) (*DSM-IV-TR*), A-criterion, for major depression, with

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Table 1. Descriptive Statistics of a Community Sample of Adolescents Aged 15 to 18 Years

Variable	No. (%)[a]			P Value[b]
	Adolescent Boys	Adolescent Girls	Total	
Sex	2808 (52.0)	2588 (48.0)	**5396** (100.0)	≤.003
Family condition				
Nuclear family	1681 (62.9)	1561 (62.8)	**3242** (62.9)	.04
Split family	991 (37.1)	925 (37.2)	**1916** (37.1)	.13
Parental employment				
Both parents working	2090 (74.9)	1876 (72.8)	**3966** (73.9)	≤.001
At least 1 parent unemployed	700 (25.1)	700 (27.2)	**1400** (26.1)	>.99
Residence				
Living in a house	2096 (75.1)	1866 (72.4)	**3962** (73.8)	≤.001
Living in an apartment	695 (24.9)	710 (27.6)	**1405** (26.2)	.69
Ethnicity				
Scandinavian ethnicity	2350 (85.7)	2176 (85.4)	**4526** (85.6)	.01
Non-Scandinavian ethnicity	391 (14.3)	371 (14.6)	**762** (14.4)	.47
Attributed status[c]				
Low	496 (18.3)	546 (22.1)	**1042** (20.1)	.12
Medium	1695 (62.5)	1572 (63.7)	**3267** (63.1)	.03
High	519 (19.2)	349 (14.1)	**868** (16.8)	≤.001
Acquired status[d]				
Low	323 (12.1)	424 (16.9)	**747** (14.4)	≤.001
Medium	1777 (66.5)	1648 (65.8)	**3245** (66.2)	.03
High	574 (21.5)	431 (17.2)	**1005** (19.4)	≤.001
Many shaming experiences[e]	403 (14.6)	457 (17.9)	**860** (16.2)	≤.001
Depressed, DSRS *DSM-IV-TR*	410 (14.6)	728 (28.1)	**1138** (21.1)	≤.001

Abbreviations: *DSM-IV-TR*, *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision); DSRS, Depression Self-Rating Scale.
[a] Within group percentage of persons who responded to each question category.
[b] Nonparametric χ^2 analysis of differences between adolescent boys and girls.
[c] Defined as the family's socioeconomic status and societal position, which the adolescent is born into and has little or no means to influence.
[d] Defined as the social status in the peer group and school environment, which the adolescent has acquired by himself or herself in social interaction with others. The status position depends on how successful this interaction has been.
[e] Defined as feelings of shame an individual has experienced of ridicule, insult, or both.

a reported sensitivity of 96.1% and specificity of 59.4% for major depression.[27,28] If 5 or more symptoms were reported and at least 1 of the 2 general criteria was fulfilled, the individual was classified as depressed according to *DSM-IV*, A-criterion.

STATISTICAL ANALYSIS

Summation indexes of attributed and acquired status were created by summarizing the 2 questions in each status category into indexes ranging from 2 to 14. Principal component analysis with varimax with Kaiser normalization was used to investigate the internal relations of the status variables. The first component consisted of family SES and family social standing (eigenvalue 2.09; factor loading of 0.91 and 0.87, respectively). The second component consisted of status in peer group and status at school (eigenvalue 1.07; factor loading of 0.86 and 0.85, respectively). The correlation between attributed status summation index and attributed status factor score was 0.98. The correlation between acquired status summation index and acquired status factor score was also 0.98. We divided each summation index into 3 categories: low status, 2 to 7 points; medium status, 8 to 10 points; and high status, 11 to 14 points. These cutoff points were made so that the 3 groups in each status category would be proportionally as equal as possible, because most individuals have a tendency to rank themselves slightly above average insofar as desirable personal qualities such as intelligence, friendliness,[1] and social status.[29]

Sex differences in the variables included in the models were analyzed using the nonparametric χ^2 test. Binary logistic regression was used for statistical analysis. In the logistic regression analysis, the reference group of the status-shaming model was medium status, few shaming experiences. The models were made separately for the 2 status-shaming models, split between adolescent girls and adolescent boys. Two analyses of each model were made, one analyzing the model singularly and one controlling for demographic background by entering factors of parental separation, parents' labor market role, type of housing, and race/ethnicity.

RESULTS

Some sex differences were noted concerning demographic background (**Table 1**). Insofar as social status, adolescent boys more often reported high attributed and acquired status, whereas adolescent girls more often reported low acquired status. Adolescent girls also reported more shaming experiences. Furthermore, there was a difference in the prevalence of depression between adolescent boys (14.6%) and adolescent girls (28.1%) (Table 1).

There were associations between low social status and depression (**Table 2**). Low acquired status at first seemed to be more strongly associated with depression than low attributed status. However, when analyzing attributed status without adjusting for demographic background, as the factors were correlated (separated parents, –0.18; type of housing, –0.18; unemployed parent, –0.23; and race/ethnicity, –0.04; all $P < .01$), the difference decreased. For adolescent boys with low attributed status, the odds ratio was 2.18 (95% confidence interval, 1.70-2.81); for adolescent girls with low attributed status, the odds ratio was

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Table 2. Binary Logistic Regression of Attributed Status, Acquired Status, Shaming Experiences, and Associations With Adolescent Depression

Variable[a]	Adolescent Boys		Adolescent Girls	
	%	OR[b] (95% CI)	%	OR[b] (95% CI)
Attributed status				
Low	23.8	1.82 (1.38-2.40)	41.2	1.84 (1.48-2.31)
Medium	12.5	1 [Reference]	24.3	1 [Reference]
High	12.9	1.11 (0.82-1.51)	24.4	1.01 (0.76-1.34)
Acquired status				
Low	26.0	2.48 (1.83-3.35)	40.8	2.08 (1.65-2.63)
Medium	12.4	1 [Reference]	25.5	1 [Reference]
High	14.6	1.18 (0.89-1.57)	26.5	1.01 (0.78-1.29)
Shaming experiences				
Few	11.3	1 [Reference]	22.4	1 [Reference]
Many	34.2	3.94 (3.05-5.09)	55.1	4.16 (3.33-5.18)

Abbreviations: CI, confidence interval; OR, odds ratio.
[a] See table notes *c* through *e* in Table 1 for definitions of attributed status, acquired status, and shaming experiences.
[b] Medium status and few shaming experiences were held as the reference in the logistic regression analysis. Single analysis for each factor, split on boys and girls, and percentage of each group who were depressed according to the Depression Self-Rating Scale of the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision). Adjusted for family condition, parental employment, residency, and ethnicity.

Table 3. Binary Logistic Regression of the Status-Shaming Model and Depression

Characteristics	Shaming Experiences[a]	Boys			Girls		
		%	OR[b,c] (95% CI)	OR[c,d] (95% CI)	%	OR[b,c] (95% CI)	OR[c,d] (95% CI)
Attributed Status[a]							
Medium	Few	10.0	1 [Reference]	1[Reference]	20.0	1 [Reference]	1 [Reference]
High	Few	9.3	0.93 (0.65-1.34)	0.97 (0.66-1.42)	18.5	0.90 (0.66-1.25)	0.90 (0.65-1.26)
Low	Few	18.8	2.09 (1.53-2.85)	1.67 (1.20-2.34)	33.2	1.99 (1.55-2.56)	1.67 (1.27-2.19)
Medium	Many	29.9	3.85 (2.74-5.41)	3.61 (2.51-5.19)	49.1	3.86 (2.89-5.16)	3.88 (2.87-5.25)
High	Many	35.2	4.91 (2.93-8.24)	5.41 (3.15-9.27)	64.4	7.24 (3.88-13.53)	6.92 (3.61-13.28)
Low	Many	42.2	6.60 (4.35-10.02)	5.47 (3.53-8.48)	60.6	6.15 (4.36-8.68)	5.41 (3.76-7.78)
Acquired Status[a]							
Medium	Few	9.9	1 [Reference]	1 [Reference]	21.3	1 [Reference]	1 [Reference]
High	Few	12.3	1.28 (0.94-1.76)	1.34 (0.97-1.85)	22.1	1.05 (0.80-1.38)	0.99 (0.75-1.33)
Low	Few	17.0	1.87 (1.27-2.74)	1.79 (1.19-2.70)	29.3	1.53 (1.15-2.05)	1.58 (1.17-2.14)
Medium	Many	29.7	3.85 (2.76-5.37)	3.78 (2.67-5.34)	50.0	3.69 (2.79-4.90)	3.46 (2.58-4.64)
High	Many	31.9	4.27 (2.53-7.21)	3.58 (2.02-6.35)	56.4	4.77 (2.76-8.25)	4.46 (2.51-7.92)
Low	Many	47.1	8.12 (5.16-12.77)	8.56 (5.29-13.84)	64.5	6.71 (4.63-9.73)	6.67 (4.50-9.88)

[a] See table notes *c* through *e* in Table 1 for definitions of attributed status, acquired status, and shaming experiences.
[b] No adjustment.
[c] Associations between attributed status, acquired status, and shaming experiences on adolescent depression, and percentage of each group who were depressed according to the Depression Self-Rating Scale of the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision). The reference group of the analysis was medium status, few shaming experiences.
[d] Adjusted for family condition, parental employment, residency, and ethnicity.

2.18 (1.78-2.68) when compared with the medium status reference group without adjustment for sociodemographic background. Participants reporting many shaming experiences were at an approximately 4-fold increased risk of depression (Table 2).

When we combined social status and shaming experiences into the status-shaming model, the patterns of relations between social status and depression changed. To report low acquired status and many shaming experiences resulted in a 6- to 8-fold increased risk of depression when adjusted for demographic background (**Table 3**). Adolescent girls with low or high attributed status who reported many shaming experiences were at about 5- to 7-fold increased risk of depression, and adolescent boys with low or high attributed status who reported many shaming experiences were at approximately 5-fold increased risk of depression, compared with the reference group with medium status and few shaming experiences. These findings present a U-shaped pattern in which prevalence of depression had the strongest relation to shaming experiences in participants who reported either low or high attributed status, whereas medium status had the lowest risk of depression. The U-shaped patterns of associations between status, shaming, and depression are shown in the **Figure**.

COMMENT

In the present study, we investigated associations between shaming experiences, social status, and depression.

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Our primary findings were as follows. First, there is a strong association between shaming experiences, that is, humiliation or insult, and depression. Second, individuals who reported low subjective social status were at higher risk of depression than those reporting medium or high social status. Third, when considering social status and shaming experiences together, the factors interacted in the prediction of depression. Participants who reported low or high attributed status were at higher risk of depression when subjected to many shaming experiences compared with participants who reported medium attributed status. Medium status seemed to provide a protective function in this regard. This U-shaped pattern was not found when considering acquired status and shaming.

The results confirmed the suggestion of Goodman et al[26] that social status in peer group and school holds a strong importance for adolescent health and must be considered when analyzing associations between social status and health. Acquired status showed a pattern for depression more similar to that in an adult population, in which low status combined with many shaming experiences contributed the highest risk. The U-shaped pattern of attributed status and shaming suggests the need to differentiate between status measures when considering associations between status and health in adolescents, and needs further investigation. We did not find any distinct sex differences insofar as the importance of the different types of status for the development of depression, although the association between high attributed status, many shaming experiences, and depression was strongest in the adolescent girls.

A possible interpretation of our U-shaped results could be that a family's high SES may also correspond to certain demands being placed on an individual to be successful. The pressure of living up to expectations and fear of failure may be a serious stress factor in adolescents, possibly comparable to the stress of having low social status. To be at the top or bottom of the social status scale might make an individual more vulnerable to the detrimental consequences of shame and humiliation when compared with having the same status as the large middle group. Adolescents are often driven by a strong urge to conform and the need to belong,[25] which may imply that having the same status as everyone else in the large medium-status group could be a protective factor. In addition, individuals with medium status might have more access to social and emotional support.

Insofar as associations between low status, shaming experiences, and depression, a possible interpretation might be found by considering certain evolutionary theories. Depression may be a mechanism for yielding in competitive situations to prevent the individual from continuing a futile struggle for dominance, reduce threats from competitors, and encourage the acceptance of a new status quo.[12,30-32] If voluntary yielding is blocked, the mechanism for subordination may become intense and prolonged, which could be recognized as depressive illness.[32] This may be one possible explanation for the strong associations between low social status, shaming experiences, and depression.

The present study confirms the importance of feelings of shame and humiliation in the development of depression. Shame is the key response when subjected to threats to the social self, which, when long-lasting or toxic, may result in pathologic reactions.[33] A previous study using the status-shaming model found strong associations between shaming, social status, and aggressive behavior.[24] It has been suggested that individuals with high narcissism and low self-concept react aggressively after ego threat, whereas individuals with lower narcissism and high self-concept react with depression.[34]

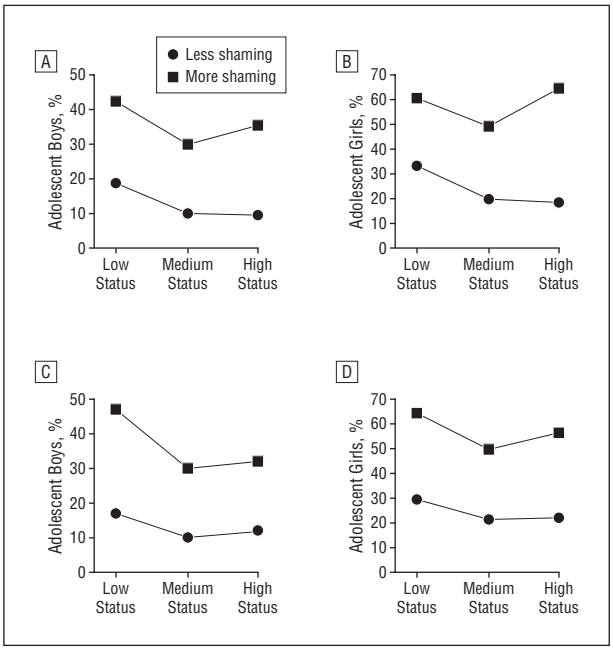

Figure. Percentage of adolescent boys and girls who are depressed according to the Depression Self-Rating Scale of the *Diagnostic and Statistical Manual of Mental Disorders* (Fourth Edition, Text Revision), depending on shaming experiences and attributed status (A and B) and on shaming experiences and acquired status (C and D).

A limitation of this study is that it relies solely on self-reporting and, thus, involves risk of information bias owing to false or inaccurate responses from the participants. For example, individuals tend to overestimate positive traits such as social status when self-reporting.[29] It has been suggested that subjective social status may have a stronger influence on health than objective social status when considering stress from social position.[7,35,36] How we perceive ourselves in relation to others is what causes a stress reaction, rather than objective facts if our evaluation of self results in a feeling of inferiority or threat to self.[33] A major problem with questions about emotions and relationships is that participants may be either unaware of this area or think they are aware but have inaccurate views. It is possible that some of our findings depend on the research method used and the realities of the participants' lives. This is particularly true for emotions of shame because most shame occurs without awareness, and such unacknowledged shame may be a cause for psychologic problems.[15,20,37] Another limitation of the study is the question of cause and effect insofar as social status, shaming experiences, and depression. Depressed persons may be more likely to interpret different life situations as humiliating and degrading and to judge their social status as low. Because of the psychologic conse-

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quences of depression, it would be impossible to distinguish the direction of cause and effect in the measures of the study. However, correlations between the concepts indicated that there was no autocorrelation.

Another limitation is that the measurement of depression had high sensitivity and low specificity, providing a risk for false-positive classifications. The Depression Self-Rating Scale of the *DSM-IV*, A-criterion, involves the risk of including participants who would be ruled out according to the more strict B-, C-, D-, and E-criteria. This scale has, nevertheless, been proved a useful instrument for defining major depression.[27] Another possible way to measure severity of depression would be to assess the frequency of depressive symptoms; however, the construction of the questionnaire and the criteria for *DSM-IV* makes such a method less specific than the one used in the present study.

Our results contribute to the mapping of influence of social status and shame on health and may have essential implications in the understanding, prevention, and treatment of depression in adolescents. Schools and institutions working to prevent and detect depression and illness in adolescents might benefit from awareness of the influence of social status.

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Correspondence: Cecilia Åslund, BA, Centre for Clinical Research, Uppsala University, Central Hospital of Västerås, S-72189 Västerås, Sweden (cecilia.aslund@ltv.se).
Author Contributions: *Study concept and design:* Åslund, Leppert, Starrin, and Nilsson. *Acquisition of data:* Åslund and Nilsson. *Analysis and interpretation of data:* Åslund, Starrin, and Nilsson. *Drafting of the manuscript:* Åslund and Nilsson. *Critical revision of the manuscript for important intellectual content:* Åslund, Leppert, Starrin, and Nilsson. *Statistical analysis:* Nilsson. *Obtained funding:* Nilsson. *Administrative, technical, and material support:* Nilsson. *Study supervision:* Leppert, Starrin, and Nilsson.
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