

# The mediating role of alienation in self-reported health among Swedish adolescents

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## Abstract

The purpose of this study was to investigate the relationship between a sense of alienation and self reported health. A sample consisting of a total of 446 high school students aged 15–19 (Mean age = 16.95, SD = 1.01, Female = 59%), with a participation rate of 91%. The Jessor and Jessor alienation scale and the Nottingham Health Profile for self reported health were used to gather data. To analyze the relationship between sense of alienation and self reported health, a path model was created and tested using structural equation modeling. The results suggest that sense of alienation is importantly related to the domain of self-reported health. The alienation variable mediates between mental health (energy level, sleep and emotional reaction) and physical health (pain pain and physical mobility).

**Keywords:** *Alienation; Health; Path Model; Students; Stockholm*

One major aim of health-related research is to identify the social determinants of health, which are known to be multi-factorial and contextual in nature (Williams, 2003). Although the influence of social conditions on health has historically been of concern, the topic gained prominence in the middle of the twentieth century (Amick, Tarlov, & Walsh, 1995; Nutbeam, Smith, Moore, & Bauman, 1993). According to the

World Health Organization (WHO) definition, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Petry, 1948). Contemporary definitions of health and well-being present health as a subjective phenomenon that cannot be assessed on the basis of physical conditions alone, but as encompassing psychological, social, and spiritual health (Amick, et al.,

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1995; Bothmer & Fridlund, 2003; McCubin & Dalgard, 2000). Self-reports of health are one of the major tools used to assess an individual's health. Contemporary public health research addresses not only diseases and illness, but also gives attention to environmental factors, risky behavior, social norms, culture, and in general social factors linked to prevention and health (Amick et al., 1995; Bothmer & Fridlund, 2003; McCubin & Dalgard, 2000).

One of the social factors likely to affect how health is perceived is social alienation (Rayce, Holstein, & Kreiner, 2008). Yet, little research has been conducted on social alienation as a determinant of health status and/or as a factor that might impact the experience of health. While alienation is a widely used concept in psychology, sociology, and the social sciences (Sarfraz, 1997; Williamson & Cullingford, 1997), there remains a lack of consensus on the definition of social alienation (Roberts, 1987; Seeman, 1991). Alienation is an umbrella concept that is sometimes used interchangeably with other terms such as isolation or anomie (Seeman, 1991). However, because the feeling of alienation is strictly contextual and based on the circumstances surrounding an individual situation, sociologists and philosophers have yet to arrive at a shared understanding of alienation or to a consensus regarding the construct. The word "alienation" means separation, being excluded, lacking a sense of belonging, meaninglessness, and isolation (Israel, 1971; Redden, 2002; Seeman, 1975). *Meaninglessness* refers to incomprehensibility and of lacking an understanding of personal and social events, while *isolation* signifies the

feeling of being excluded by society and groups, feeling abandoned (Seeman, 1975). The alienated person is less effective socially and does not strongly attach with the goals of the society to which he or she should belong (Israel, 1971; Redden, 2002; Seeman, 1975).

In health research some of the variables of social alienation are recognized as risk factors for negative health outcomes and damaging health behaviors (Nutbeam et al., 1993; Rose-Sepowitz & Thyer, 2004; Rowling & Gehring, 1998; Tomaka & Palacios, 2006; Veenhoven, 1992). Alienation is significantly associated with engaging health risk behaviors such as alcohol and drug abuse and a sense of alienation decreases health promotion activities (Jamner & Stokols, 2000). Psychological studies on alienation have established correlations with anxiety, deviant behavior, substance abuse, low participation in school activities, poor social skills, low academic motivation, low self-esteem, psychological distress, and depression (Claes, 2003; Newman & Newman, 2001; O'donnell, Schwab-Stone, & Ruchkin, 2006; Rose-Sepowitz & Thyer, 2004). Feelings of alienation are characterized by an individual believing him/her to be different from others. In this state the individual experiences low self-esteem and aspires to become another person, which can lead to psychological problems (Kalekin-Fishman, 2006). During adolescence, individuals have a strong desire for peer relationships and to be accepted by peers. Alienation can affect emotional health, self-esteem, and the self-image of the person and lead to psychological symptoms (Farrow, 1991; Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007). At school, alienated

adolescents who experience a sense of not belonging, often have fewer friends and more narrow social networks and may exhibit low self-esteem. This in turn may lead to depression, distress and other psychological problems (Claes, 2003; Farrow, 1991; Hall-Lande et al., 2007; Newman & Newman, 2001; O'donnell et al., 2006; Rose-Sepowitz & Thyer, 2004). The depressed person or the person with low self-esteem may be less motivated to establish friendships. This may lead the individual to become more isolated and alienated and thus at greater risk of developing psychological problems that can impact upon his/her or future health and well-being (Farrow, 1991; Hall-Lande et al., 2007). Palosuo (2000), in a study concerned with the relationship between health, life style, and alienation, indicated that those who feel less alienation usually adopt healthier lifestyles (Palosuo, 2000).

Tomaka and Palacios (2006) demonstrate fairly consistently that social alienation is related to negative health outcomes. Their study further indicates a significant relationship between a sense of alienation and health status (Tomaka & Palacios, 2006).

Rayce et al. (2008) conducted a study in Denmark focused on "aspects of alienation and symptom load among adolescents." The study demonstrates an association between alienation and experiencing daily physical and psychological symptoms (Rayce, et al., 2008). In their study, the symptom load was split into two dimensions, physical (headache, stomachache, back pain, and dizziness) and psychological (feeling low, irritated/bad temper, nervous, and sleeping difficulties). They suggest that more research is needed to identify the

pathway between alienation and symptom load.

Crinson and Yuill (2008) in their theoretical study about alienation and inequalities in health, investigate how alienation theories can be applied with respect to health outcomes. Based on previous research they attempt to determine how a sense of alienation can be associated with poor health and health outcomes such as stress, emotional deadness, psychological and physical well-being, aggression, and dissatisfaction (Crinson & Yuill, 2008).

Building on the results from the studies above and in light of the fact that the relationship between social alienation and health impacts is relatively unexplored, especially in Swedish context, the study reported on here investigated the relationship between sense of social alienation and self-reported health, both mental and physical, among adolescents in Stockholm.

## **METHOD**

Here we present data derived from a larger project entitled: "Health related social alienation among Swedish youths" (Safipour, Tessma, Higginbottom, & Emami, 2010). The project includes several sub-studies, i.e. "Migration status and self-reported health among high school students in Stockholm: a cross-sectional study" and "Feelings of social alienation: A cross-sectional study amongst Swedish youth (Comparison of immigrant and non-immigrant students)." These studies were conducted among high school students in Stockholm, aged 15 to 19 years old. This study is a cross-sectional study that draws

upon the quantitative research paradigm by using two pre-designed questionnaires for data gathering.

We selected two general scales to structure the collection of data on self-reported health and feelings of alienation. To measure self-reported health we used the Nottingham Health Profile (NHP; Bowling, 1999). To measure a sense of social alienation, the Jessor and Jessor alienation scale was utilized (Jessor & Jessor, 1977; Seeman, 1991).

### **Nottingham health profile**

The NHP was developed in the UK and has been used in a number of studies in Sweden (Garcia & McCarthy, 2000; Hunt, McEwen, & McKenna, 1984; Wiklund & Dimenäs, 1990; Wiklund, Romanus, & Hunt, 1988). The NHP measures general health status. This scale is also appropriate for populations that are not necessarily ill. The NHP 38 includes 38 items for measuring six aspects of health: (1) Physical Mobility (PM, 8 items), (2) Pain (P, 8 items), (3) Sleep (S, 5 items), (4) Social Isolation (SI, 5 items), (5) Emotional Reactions (EM, 9 items), and (6) Energy Level (EL, 3 items) (Bowling, 1999; McDowell, 1996). Examples of items from each group are: (1) I find it hard to bend (PM), (2) I am in pain when I walk (P), (3) I lie awake for most of the night (S), (4) I am finding it hard to make contact with people (SI), (5) I wake up feeling depressed (ER), and (6) I soon run out of energy (EL).

The NHP is scored from 0 (no problem) to 100 (where all problems are affirmed) for each domain. An overall score for the NHP is not calculated

(Bowling, 1999; Safipour, Tessma, Higginbottom, & Emami, 2010b).

### **Jessor and Jessor alienation scale**

This scale is designed as a general alienation questionnaire and is appropriate for use among adolescents. This scale measures feelings of social alienation in terms of isolation and meaninglessness of daily activities among adolescents (Jessor & Jessor, 1977; Seeman, 1991). The scale has been translated to Swedish and validated for use among this specific target group (15–19 years old) (Safipour et al., 2010). It consists of 15 Likert type items with five alternatives that range from strongly agree to strongly disagree. Items worded negatively are subtracted from six and the scores are summed. Scores range from 15 (low alienation) to 60 (high alienation) (Jessor & Jessor, 1977; Melvin Seeman, 1991). Examples of items measuring alienation are: (1) Most people don't seem to accept me when I'm just being myself, (2) Hardly anyone I know is interested in how I really feel inside, and (3) I often feel left out of things that others are doing.

### **Sample**

The study sample consisted of a group of high school students in Stockholm aged 15–19 years old. First, eight high schools were selected randomly from a total of 29 high schools in different geographical areas of Stockholm. Second, informants were randomly selected from these high schools. All data were gathered during the latter part of 2007 and the beginning of 2008. Questionnaires were handed out to the students directly by the first

author and students had 25 minutes to complete them at the schools.

### Statistics

Statistical analyses were conducted using SPSS, Mx 32, and MPlus. A correlation matrix was calculated among the components of self-reported health and sense of alienation. A path analysis was carried out using structural equation modeling (SEM). The SEM provides tests of a model of relationships between variables, both observed (manifest) and unobserved (latent; MacCallum & Austin, 2000). To test the proposed model, overall goodness of fit was assessed with a Chi-Square ( $\chi^2$ ) test, Akaike's Information Criterion (AIC), and the Root Mean Squared Error of Approximation (RMSEA). If the chi-square test is non-significant ( $p > 0.05$ ), the model is considered to have a good fit. However, this test is generally considered to be very stringent, especially with large sample sizes. The RMSEA provides a measure of fit insensitive to sample size. Values between 0.10 and 0.05 are considered to indicate acceptable fit while good fit results in values below 0.05. Standardized path coefficients are re-

ported in the final model. All coefficients on single headed arrows with absolute values greater than 0.07 were statistically significant at the 0.05 level.

### Ethical considerations

All participants in the present study received verbal and written information about the objective of the study and they were also informed about their right to withdraw their participation at any stage. The questionnaires were collected by the first author and students were guaranteed strict confidentiality regarding their responses. This study was approved by the Stockholm regional ethics committee #2006/5:5 at Karolinska Institutet.

### RESULTS

A total of 446 students participated in the study (Mean age = 16.95, SD = 1.01, Female = 59%) with a participation rate of 91%. The responses to social alienation ranged from 15 to 60, and responses on the six dimensions of health covered by the NHP ranged from 0 to 100. Descriptive statistics are presented in Table I. Some dimensions of health,

Table I. Descriptive statistics of self-reported health\* and social alienation\*\* by 446 high school students aged 15–19.

Variables	Mean	SD	Quartile 1	Quartile 3
Social alienation	29.15	6.60	25.00	34.00
Energy level	29.65	34.56	0.00	39.20
Pain	4.48	13.69	0.00	0.00
Emotional reaction	20.32	24.77	0.00	31.67
Sleep	17.04	23.41	0.00	23.10
Social isolation	10.84	20.65	0.00	19.36
Physical mobility	5.10	10.10	0.00	11.20

\*Scores range from 15 (low alienation) to 60 (high alienation).

\*\*Scores range from 0 (no problem) to 100 (where all problems are affirmed).

Table II. Inter-item correlation matrix between six dimensions of health and social alienation.

	1	2	3	4	5	6	7
Social alienation	1.00						
Energy level	0.465	1.00					
Pain	0.224	0.355	1.00				
Emotional reaction	0.593	0.654	0.401	1.00			
Sleep	0.388	0.466	0.282	0.559	1.00		
Social isolation	0.596	0.375	0.233	0.595	0.323	1.00	
Physical mobility	0.253	0.449	0.645	0.449	0.333	0.266	1.00

such as pain and physical mobility, have low means but are highly skewed. The highest mean scores were found for social alienation, energy level, and emotional reaction.

The inter-item correlation matrix between social alienation and the six dimensions of self reported health is presented in Table II. Four variables (energy level, emotional reaction, sleep, and social isolation) are moderately inter-correlated with social alienation (0.39–0.60) and all correlations are significant at  $p < 0.05$ .

The relationship between feelings of social alienation and self-reported health was analyzed by SEM and the final path

diagram is shown in Figure 1. The model has three latent variables. The first (Alienation) underlies social alienation and isolation. According to the WHO definition (1948), the isolation variable is related to social well-being. Isolation is also one of the main dimensions of alienation (Table II) and the highest correlation coefficient was shown to be between isolation and sense of alienation (0.60). The second latent variable (Mental health) is related to three aspects of health (energy level, sleep, emotional reaction) and is considered to be more related to aspects of subjective well-being. The third latent variable (Physical Health) relates to physical mobility and

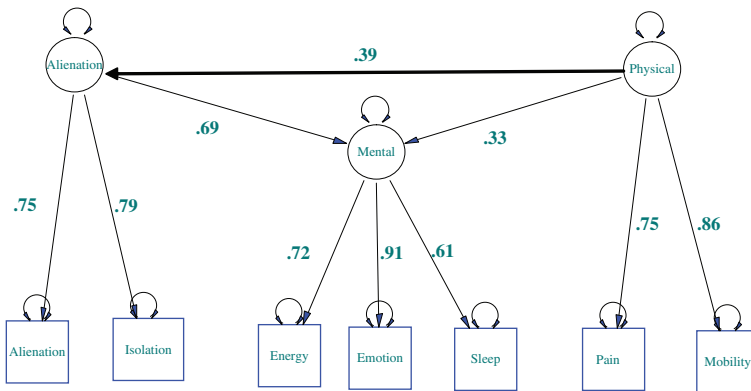


Figure 1. Structural equation model with related correlation coefficients on six dimensions of health and feelings of social alienation.



pain. Standardized coefficients representing the relationships among these components are presented in Figure 1. Two coefficient paths from alienation and isolation to the first latent variable we identify as *social alienation* were calculated. Three coefficient paths were drawn for emotional reaction, sleep, and energy level to the second latent variable that we refer to as *mental health*. From pain and physical mobility two paths were drawn to the final latent variable that we have called *physical health*. The final coefficient paths were drawn from *social alienation* to *mental health* and from *physical health* to alienation and from physical health to mental health. The summary of the model fit is shown in Table III. While the Chi-square (26.56;  $df = 11$ ;  $p = 0.005$ ) suggests that the fit is not perfect, the RMSEA is 0.05, which is generally considered an acceptable fit (Hoyle, 2011).

Table III. Summary of fit model for pathway analysis by Structural Equation Modeling.

Fit index	Result
Chi Square model fit	26.56 (15.15–45.69)
DF	11
Probability	0.005
Free parameters	17
AIC	4.56 (–6.85 to 23.69)
RMSEA	0.05 (0.03–0.08)

## DISCUSSION

The main aim of this study was to investigate and determine the relationship between sense of social alienation and self-reported health. Through a theoretical analysis and the presentation of empirical results we intended to

present an overview of how feelings of ill health can be related to sense of alienation or vice versa.

To some extent the present study validates the projections based on the theoretical framework; namely, that feelings of social alienation significantly impact on feelings of ill-health. Empirical and theoretical frameworks for social alienation and health show that social alienation is related to some negative health outcomes, especially in terms of mental health problems (Crimson & Yuill, 2008; Nutbeam et al., 1993; Rowling & Gehring, 1998; Tomaka & Palacios, 2006; Veenhoven, 1992). In the present study we examined the relationship between sense of alienation and six dimensions of health: energy level, emotional reaction, sleep, pain, physical mobility and isolation. Because we investigated a healthy population—youth in Sweden aged 15–19 years—the data is skewed particularly in relation to physical mobility and pain. However, the results of the study considerably validate the theoretical assumptions regarding the impact of sense of social alienation on mental health.

We found that some aspects of self-reported health were more related to mental health; these included emotional reaction and energy, which were highly related to sense of social alienation. This relationship can be explained by variables such as stress and anxiety being related to sense of alienation (Crimson & Yuill, 2008). Youth often deal with stressful situations at school. This can lead to a sense of meaninglessness and alienation, which in turn can lead to psychological problems in adolescents (Cederblad, 2001). Wrangsjö (2004) also argues that since youth are in a

transition period from childhood to adulthood, they may feel alienated from their childhood while they are replacing childish behavior with more mature behavior. This transition can create problematic situations with regards to relationships with friends and relatives, which in turn can have an impact on the adolescent's psychological well-being (Wrangsjö, 2004).

In relation to our findings we have identified only a few studies investigating the impact of alienation on health among students (Rayce et al., 2008). A study conducted by Rayce et al. (2008) shows a significant association between alienation and high symptom load. The symptoms load increased with the degree of alienation. Specifically, the study shows that alienation leads students to a greater propensity towards engaging in high risk related health behaviors that increase their symptom load. Although the above-mentioned study found a significant association between alienation and physical health in terms of having pain (headache, stomachache, back pain, and dizziness), our results demonstrate the possible risk that having physical problems poses for a sense of alienation. It is possible that students with pain and limited physical mobility are at increased risk of isolation and alienation as a result of their mobility difficulties. The significant impact of alienation on pain that Rayce et al. (2008) find in their study might be associated with other psychosomatic symptoms such as stress, anxiety, aggression, or depression (Crinson & Yuill, 2008). Rayce et al. (2008) suggest that the sense of alienation needs to be taken into consideration for future health research among youth.

We agree with Crinson and Yuill (2008) who point out a concern with regards to the generalizeability of findings about social causes of health variables. The multi-factorial and contextual nature of social phenomena is usually not considered in path analysis and this fact limits the generalizeability of the findings (Crinson & Yuill, 2008; Williams, 2003). The sample used in this study consists of high school students in Stockholm, which further limits the generalizeability of the study results as it does not include a wider population such as students from other cities or countries with different social conditions and health systems. We are also aware that the significant findings of our study are not based on a cause and effect relationship and that the linear model we present in our pathway is not a model of causality. Thus, the findings are limited to significant relationships instead of cause and effect relationships between sense of alienation and self-reported health.

Several previous studies identify a significant relationship between sense of social alienation and some dimensions of health. Our study has examined the relationship between health and only six dimensions of NHP, which may be regarded as a limitation. While the pathway that was identified to represent the relationship between sense of alienation and health is based on the best statistical model available, our findings are limited in several respects. First, the nature of the quantitative study (cross-sectional) did not allow us to deeply investigate how and through which processes a sense of alienation can affect mental problems. Second, although our statistical results demonstrate the possible impact of alienation on mental health, we



cannot generalize our results or argue that a reverse relationship does not exist for different populations or different age groups. Thus, we recommend qualitative studies along with quantitative investigations on health-related alienation. Since our sample was selected from a young healthy population and few studies have been carried out in this field, we recommend a repetition of this study among the elderly and among people with physical and psychological problems to gain a clearer understanding of the relationship between sense of alienation and health. We concur with Rayce et al. (2008) and recommend further investigation of the impact of alienation on health, especially with regards to anxiety, depression, alcoholism, stress, aggression, and dissatisfaction.

## **CONCLUSION**

Adolescence is a period of major physical and psychological development. During this phase of life, the young person feels the greatest need for peer friendship and involvement in school and social activities is a major concern. Because of these social and psychological changes the risk of negative health outcomes increases considerably. One social factor that is known to be a possible risk factor for health is social alienation. Although numerous studies have been conducted in relation to adolescent health, little is known about the relationship between feelings of social alienation and self reported health.

The present study identifies a pathway to describe the relationship between sense of alienation and six dimensions of self-reported health. The findings of

the study illustrate a model through which the relationship between self-reported health and sense of alienation can be shown. The test of the study hypothesis and fit of the variables as presented by SEM were examined by a Chi-square test and other statistical analysis. The main finding of this study is that sense of alienation can impact on *some aspects of mental health* among our study population. This is significant given the paucity of previous research in the field. In our sample population we found that a sense of alienation had a significant impact on mental health emotional reactions, energy level, and sleep. The alienation variable was found to be a mediating factor between mental health and physical health. Feelings of alienation can increase the risk of mental health problems, while on the other hand physical health problems (pain and physical mobility) increase the risk of alienation. Based on our findings and several studies that reveal alienation as a risk factor for psychological problems especially among adolescents, we recommend that policy-makers and educators work to prevent alienation especially in the school environment. In line with Hall-Lande et al. (2007) we further suggest that close attention be paid to protective factors for psychological and alienation among adolescents such as family and community support and quality of peer friendships.

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