

Relationship between Social Anxiety Symptoms and Behavioral Impairment in Adolescents: The Moderating Role of Perfectionism and Learning Motivation

Relación entre los síntomas de ansiedad social y el deterioro del comportamiento en los adolescentes: el papel moderador del perfeccionismo y la motivación del aprendizaje

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Abstract

Numerous studies have found that adolescents with social anxiety disorder experience greater difficulty in school adjustment and show higher dropout rates. Perfectionism and learning motivation are known to be significant predictors of academic achievement; these factors may enhance or diminish behavioral impairment within the school setting. The purpose of the present study was to examine the relationship between social anxiety, learning motivation, perfectionism, and behavioral impairment within a community sample of adolescents. Five hundred ninety-four German middle school students aged 12-17 years (mean age = 14.60, SD=1.64; 59.4% female) were recruited through their schools to respond to a questionnaire package consisting of Spence Children's Anxiety Scale, the Child and Adolescent Perfectionism Scale, impact supplement of the Strengths and Difficulties Questionnaire, and intrinsic values subscale of Motivational Strategies for Learning Questionnaire. Results of correlational and multiple regression analysis showed that social anxiety symptoms were a significant predictor of distress and behavioral impairment, especially in friendship and classroom learning domains. It was shown that intrinsic learning motivation

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promotes classroom learning in students with high levels of social anxiety, whereas perfectionism interferes with domains outside the classroom, such as friendships and leisure activities. Limitations and implications for future research were discussed.

Keywords: social anxiety disorder, learning motivation, perfectionism, Germany, behavioral impairment.

Resumen

Numerosos estudios han encontrado que los adolescentes con trastorno de ansiedad social experimentan mayor dificultad en el ajuste escolar y muestran tasas más altas de abandono escolar. Se sabe que el perfeccionismo y la motivación de aprendizaje son predictores significativos del logro académico; estos factores pueden mejorar o disminuir el deterioro del comportamiento en el entorno escolar. El propósito del presente estudio fue examinar la relación entre la ansiedad social, la motivación de aprendizaje, el perfeccionismo y el deterioro del comportamiento dentro de una muestra comunitaria de adolescentes. Quinientos noventa y cuatro estudiantes de secundaria alemanes de 12 a 17 años de edad (edad media = 14,60 años, DE = 1,64; 59,4% mujeres) fueron reclutados a través de sus escuelas para responder a un paquete de cuestionarios consistente en la Escala de Ansiedad Infantil de Spence, la Escala de Perfeccionismo Infantil y Adolescente, suplemento de impacto del Cuestionario de Fortalezas y Dificultades, y subescala de valores intrínsecos del Cuestionario de Estrategias Motivacionales para el Aprendizaje. Los resultados del análisis de correlación y regresión múltiple mostraron que los síntomas de ansiedad social eran un predictor significativo de angustia y deterioro del comportamiento, especialmente en los dominios de la amistad y el aprendizaje en el aula. Se demostró que la motivación intrínseca del aprendizaje promueve el aprendizaje en el aula en estudiantes con altos niveles de ansiedad social, mientras que el perfeccionismo interfiere con dominios fuera del aula, como las amistades y las actividades de ocio. Se discutieron las limitaciones y las implicaciones para la investigación futura.

Palabras clave: trastorno de ansiedad social, motivación de aprendizaje, perfeccionismo, Alemania, deterioro del comportamiento.

1. INTRODUCTION

Social anxiety disorder is a debilitating state that affects approximately 11-12% of the population at some point in their life (Beesdo et al., 2007; Ruscio et al., 2007). Typically starting in childhood and early adolescence (Chavira & Stein, 2005; Kessler et al., 2007), social anxiety disorder is associated with impairment in various life domains, including study performance, social life, and family relationships (Aderka et al., 2012; Wong et

al., 2012). Youth with social anxiety disorder show a higher risk of premature school withdrawal, and there is some evidence that this risk may be higher than for other anxiety disorders (Van Ameringen et al., 2003). Prevention and early intervention are important not only to alleviate present sufferings but also to help students fulfill their potential and achieve future goals.

From the scope of prevention, identifying those with high risks and increasing protective factors within adolescent community samples is an important issue. Essau et al. (1999) show that while approximately 50% of adolescents randomly selected from German schools report more than one social fear, only 23.5% of those meeting diagnostic levels of social anxiety and 14.5% of those with social fears seek treatment. The low percentage, in addition with the high stability and the significant oscillation above and below the diagnostic threshold (Merikangas et al., 2002), indicate that addressing subsyndromal levels of social anxiety in youths is a promising approach to reach out to those in need of intervention. Further, there is data that 70% to 80% of children who receive mental health services receive them in school, and for many children, the school system provides their only form of mental health treatment (Burns et al., 1995). Taken together, identifying behavioral impairment, preventing premature dropout from school, and encouraging educational achievement is beneficial in itself, but can also function as a means to provide professional support for students in need of treatment for social anxiety symptoms.

While there is ample evidence that social anxiety symptoms interfere with school performance (e.g., Vilaplana-Pérez et al., 2021), less is known about the moderating factors which promote or undermine behavioral impairment. One promising factor from the field of educational psychology is learning motivation. Ryan and Deci (2000) classified motivation into multiple categories based on the reasons and goals initiating the behavior, the most basic distinction being intrinsic and extrinsic motivation. Intrinsic motivation is reinforced by the inherent attractiveness or enjoyment in the activity itself, whereas extrinsic motivation is based on a separable outcome (e.g., external reward or social approval, avoidance of punishment or attainment of a valued outcome). Intrinsic learning motivation is a pervasive drive for children and adolescents to learn for the sake of fun or interest and has been positively correlated with school achievement and academic competence (Gottfried, 1985). An interesting feature of intrinsic and extrinsic motivation is that the two dimensions are independent and only moderately correlated with each other (Lepper et al., 2005). While students with social anxiety symptoms may be reinforced by extrinsic motivation (i.e., to avoid scrutiny from others and receive social approval), they can at the same time be motivated by the learning process itself. This can act as a protective factor from impairment in school performance.

Another psychological trait which is influential in predicting school performance is perfectionism. Perfectionism is described as a personality disposition characterized by striving

for flawlessness and setting exceedingly high standards for performance, accompanied by tendencies for overly critical evaluations (Frost et al., 1990; Stoeber et al., 2009). In their multidimensional model of perfectionism, Hewitt and Flett (1991a) described the difference between self-oriented perfectionism and socially prescribed perfectionism. The former is defined as unrealistic standards and perfectionistic motivation for the self and is mainly internally motivated. The latter is defined as the belief that others expect oneself to be perfect and is mainly an externally motivated form of perfectionism. Self-oriented perfectionism is generally associated with higher academic achievement (Osenk et al., 2020), whereas socially prescribed perfectionism has been consistently linked to negative outcomes, including higher test anxiety (Stoeber et al., 2009), less self-efficacy for learning and performance (Mills and Blankstein, 2000), and maladaptive appraisal of interpersonal situations in socially anxious individuals (Laurenti et al., 2008).

Despite the fact that both learning motivation and positive forms of perfectionism have been linked with higher functioning in school, their relationship with social anxiety symptoms and behavioral impairment in school-aged adolescents is yet to be pursued. If these factors function as moderators between social anxiety and behavioral difficulties, it will carry implications for prevention and early intervention in school settings. Therefore, the purpose of the present study was (1) to examine the relationship between symptoms of social anxiety and behavioral impairment, with a special emphasis on friendship and classroom learning domains, and (2) to explore whether intrinsic learning motivation and perfectionism act as moderators between social anxiety symptoms and behavioral impairment. It was hypothesized that (A) social anxiety symptoms will be linked with stronger distress and behavioral impairment in all areas (i.e. home life, friendships, classroom learning, and leisure activities), but the strongest correlation will be in the domains of friendship and classroom learning, (B) participants scoring high in social anxiety symptoms will show greater behavioral impairment when associated with higher levels of socially prescribed perfectionism, and (C) participants scoring high in social anxiety symptoms will display more behavioral impairment when their intrinsic learning motivation is low.

2. METHODS

2.1. Participants

Participants were 594 adolescents recruited from four high schools (two urban and two rural schools) in Nordrhein Westfalia, Germany. The size of these four schools and the number of children in each class was similar; the average school and class size was approximately 600 and 24 students, respectively. Almost all of the sample was of German origin (92%), with the remainder coming from other ethnic backgrounds, mostly from Southern Europe. Participant age ranged from 12–17 years, and mean age was 14.60

(SD=1.64). Slightly more than half of the subjects were females (241 males, 40.6%; 353 females, 59.4%). The socioeconomic status of participants varied greatly, ranging from parents with low-skill jobs to physicians.

2.2. Procedure

All participants were invited to take part in a questionnaire study via their respective schools. After school approval was obtained, all participants had to provide a parental written informed consent before participating in the study. Adolescents' participation was voluntary, and no incentive was given for participation. About 90% of the adolescents who were invited to participate in the study did so. Responders did not differ significantly from non-responders in terms of age and gender. The adolescents completed questionnaires in their classroom and the order of administration was counterbalanced across classrooms. Those who did not participate in the study took part in their regular lesson. One research assistant was present throughout to provide assistance if needed and to ensure confidential and independent responding.

2.3. Instruments

The Spence Children's Anxiety Scale (SCAS; Spence, 1997) is a 38-item measure of anxiety symptoms in children and adolescents. The items measure DSM-IV anxiety disorders including separation anxiety, social phobia, obsessive-compulsive disorder, panic/agoraphobia, physical injury fears, and generalized anxiety disorder. For the purpose of this study, only the social phobia subscale and total score was used. Each item is rated on a 4-point scale in terms of its frequency from "never" (0) to "always" (3), and higher scores reflect higher levels of anxiety symptoms. The reliability and the validity of the German SCAS has been examined in a sample of German primary school children (Essau et al., 2002). For the present study, internal consistency for the total scale was .89 and for the social phobia subscale was .72.

The Child and Adolescent Perfectionism Scale (CAPS; Flett et al., 2016) was used to assess self-oriented and socially prescribed perfectionism. The CAPS contains 22 items, which are rated on a three-point Likert scale ranging from "not true" (0) to "very true" (2). The CAPS consists of two subscales: self-oriented perfectionism and socially prescribed perfectionism. The validity of the CAPS was supported by its significant correlation with various forms of emotional distress, including anxiety, depression, and stress (Flett et al., 2016). In this study, the CAPS was demonstrated to have moderate internal consistency, with Cronbach's alpha of 0.82 for the total scale, 0.75 for self-oriented perfectionism, and 0.79 for socially prescribed perfectionism.

The Strengths and Difficulties Questionnaire (SDQ; Goodman 1997) is a measure used to assess general difficulties and positive attributes in adolescents. It includes a section called “impact supplements”, in which the subjects were asked whether they have difficulties in emotion, concentration, behavior, or interpersonal relationships. If the answer is “yes”, further questions were asked on the distress, behavioral impairment, burden, and chronicity of the problem. Impairment is divided into four life domains: home life, friendships, classroom learning, and leisure activities. Other items include how long the problem has been present, levels of distress caused by the problem, and whether the difficulties make it hard for other people such as family, friends, and teachers. The official German adaptation of the SDQ was used in the present study (<https://www.sdqinfo.org/py/sdqinfo/b3.py?language=German>). The SDQ is one of the most commonly used questionnaires to measure general difficulties and positive attributes in Germany because of its sound psychometric properties among German children and adolescents (e.g., Barzilay et al., 2019; Ghinea et al., 2019).

Motivational Strategies for Learning Questionnaire (MSLQ; Pintrich and DeGroot, 1990) is a self-report inventory for measuring student’s motivational orientation and self-regulated learning strategy use. It consists of 6 motivation subscales and 9 learning strategies scales. Factorial and predictive validity, as well the reliability of the scale has been confirmed (Credé and Phillips, 2011; Duncan and McKeachie, 2005; Pintrich et al., 1991). For the purposes of the present study, the intrinsic goal orientation subscale was used to measure the degree to which the student is motivated by the learning task itself. Items of this subscale measure the degree to which the student perceives him/herself to be participating in academic tasks for reasons such as challenge, curiosity, or a sense of mastery. The inventory uses a 7-point Likert scale, ranging from 1 (not at all true of me) to 7 (very true of me). Scores are calculated by taking the mean of the items that make up that scale. Alpha coefficient of the scale in the present study was 0.84.

2.4. Translation of questionnaires

The English version of the questionnaires (CAPS and MSLQ) were adapted and translated according to guidelines that are widely accepted for the successful translation of instruments in cross-cultural research (Brislin, 1970). Based on this approach one bilingual translator who was also a native speaker or culturally informed individual translated the questionnaires from the original language (English) to the second language (German), and another bilingual translated it back to the original language (German back to English). Differences in the original and the back-translated versions were discussed and resolved by joint agreement of both translators.

2.5. Data Analysis

First, age x gender distribution was checked to determine if there was a significant distribution bias. Paired t-tests were utilized to examine mean differences between male and female data for the variables included in the study. Next, polyserial correlations between the SCAS social phobia subscale and items from SDQ impact supplement were calculated to examine the association between social anxiety symptoms and subjective distress/impairment. The values were compared to the correlation with total SCAS scores excluding the social anxiety symptoms in order to evaluate the specificity of the relationship. Finally, a series of regression analysis were employed to examine the direct effect of social anxiety symptoms, self-oriented perfectionism, socially prescribed perfectionism, and intrinsic learning motivation, as well as the interaction between social anxiety symptoms and the latter three variables on behavioral impairment (i.e., in home life, friendships, classroom learning, and leisure activities domains).

3. RESULTS

Incomplete data were omitted from analysis since the values were missing at random. Since previous studies show gender differences in social anxiety (e.g., McLean et al., 2011), the effect of gender was examined for each of the variables. Chi-squared test showed a significant age x gender distribution bias for the present sample ($\chi^2(5) = 19.56, p < .01$), and Cramer's V was 0.18 (effect size=weak). Residual analyses showed a significant distribution bias in males and females for 12-year-olds ($p < .001$; 45 males, 26 females) and 17-year-olds ($p < .05$; 31 males, 68 females). The descriptive statistics for the variables included in the study are shown in Table 1. The largest skew and kurtosis were found for the SCAS total score, but for the most part, the variables were normally distributed. From the results of the t-tests, females scored higher than males on SCAS social anxiety and total anxiety score, while males scored slightly higher than females on socially prescribed perfectionism and total perfectionism score.

Table 1
Descriptive statistics of measures included in the study and tests for gender differences

| | Total mean (SD) | Skewness | Kurtosis | Male mean (SD) | Female mean (SD) | t-test |
|--|--------------------------------|-----------------|-----------------|-------------------------------|-----------------------------|-----------------|
| The Spence Children's Anxiety Scale (SCAS) | | | | | | |
| Social phobia | 5.83 (2.90) | 0.54 | 0.11 | 5.08 (2.77) | 6.34 (2.89) | t(592)=-5.30*** |
| SCAS total | 22.75 (10.83) | 1.00 | 1.79 | 18.66 (10.11) | 25.54 (10.41) | t(592)=-8.00*** |

| | Total mean (SD) | Skewness | Kurtosis | Male mean (SD) | Female mean (SD) | t-test |
|---|--------------------------------|-----------------|-----------------|-------------------------------|-----------------------------|----------------|
| The Child and Adolescent Perfectionism Scale (CAPS) | | | | | | |
| Self-oriented | 9.49 (4.09) | 0.39 | 0.04 | 9.79 (3.61) | 9.29 (4.38) | t(571.17)=1.52 |
| Socially prescribed | 3.93 (3.39) | 0.93 | 0.19 | 4.26 (3.43) | 3.69 (3.36) | t(589)=2.00* |
| CAPS total | 13.40 (6.22) | 0.58 | -0.04 | 14.05 (5.64) | 12.95 (6.55) | t(589)=2.12* |
| Motivational Strategies for Learning Questionnaire (MSLQ) | | | | | | |
| Intrinsic value | 4.34 (1.05) | 0.04 | 0.10 | 4.44 (1.15) | 4.28 (0.97) | t(455.10)=1.86 |

* $p < .05$, *** $p < .001$

Polyserial correlations between the SDQ impact supplement items and SCAS social phobia subscale is provided in Table 2. For comparison, the correlation between each item and the total SCAS score excluding the social phobia subscale is also provided. Results of Wald tests showed that all correlations except for the correlation between SCAS total score (omitting social phobia) and impairment in leisure activities were significant. Social anxiety was most strongly linked with distress associated with the symptoms ($r=.48$), whereas the link between distress and other anxiety symptoms was $r=.37$. In regard to impairment, the association between social anxiety symptoms and impairment was strongest in friendship and classroom learning domains. Thus, hypothesis (A) was supported.

Table 2

Polyserial correlations between SDQ impairment and social phobia subscale/ SCAS total score excluding social phobia

| | Length | Distress | Impairment | | | | Impact on others |
|---|--------|----------|------------|---------|---------|---------|---------------------|
| | | | Home | Friend | Class | Leisure | |
| Total SCAS (excluding social phobia) | 0.19** | 0.37*** | 0.25** | 0.28*** | 0.39*** | 0.13 | 0.25** |
| Social phobia | 0.17* | 0.48*** | 0.30*** | 0.40*** | 0.41*** | 0.23** | 0.29*** |

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

SDQ= *The Strengths and Difficulties Questionnaire*, SCAS=*Spence Children's Anxiety Scale*

A series of regression analyses were conducted to examine the predictive value of social anxiety, perfectionism, and learning motivation on behavioral impairment as measured by the SDQ impact supplements (i.e., impairment indicators). Social anxiety, self-oriented

perfectionism, socially prescribed perfectionism, intrinsic learning motivation, and the interaction between social anxiety and each of the scales were included as independent variables. Dependent variables were home life, friendships, classroom learning, and leisure activities impairment. The results are shown in Tables 3-6.

Table 3
Regression Analysis for Impairment in Home Life

| Predictors ($R^2=0.07^{**}$) | Beta | 95%CI | VIF |
|---|-------|-----------------|------|
| Social phobia | 0.13* | [0.001, 0.033] | 1.15 |
| Self-oriented perfection | 0.08 | [-0.004, 0.019] | 1.34 |
| Socially prescribed perfectionism | 0.01 | [-0.012, 0.015] | 1.29 |
| Intrinsic learning motivation | -0.06 | [-0.007, 0.003] | 1.08 |
| Social phobia x self-oriented perfectionism | 0.01 | [-0.003, 0.004] | 1.29 |
| Social phobia x socially prescribed perfectionism | 0.13* | [0.000, 0.011] | 1.25 |
| Social phobia x intrinsic learning motivation | -0.06 | [-0.002, 0.001] | 1.10 |

* $p < .05$, ** $p < .01$

Table 4
Regression Analysis for Impairment in Friendships

| Predictors ($R^2=0.18^{***}$) | Beta | 95%CI | VIF |
|---|---------|------------------|------|
| Social phobia | 0.33*** | [0.056, 0.113] | 1.15 |
| Self-oriented perfection | 0.12* | [0.001, 0.043] | 1.34 |
| Socially prescribed perfectionism | 0.09 | [-0.007, 0.043] | 1.29 |
| Intrinsic learning motivation | -0.06 | [-0.014, 0.004] | 1.08 |
| Social phobia x self-oriented perfectionism | -0.17** | [-0.016, -0.003] | 1.29 |
| Social phobia x socially prescribed perfectionism | 0.09 | [-0.002, 0.017] | 1.25 |
| Social phobia x intrinsic learning motivation | 0.11* | [0.000, 0.006] | 1.10 |

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5
Regression Analysis for Impairment in Classroom Learning

| Predictors ($R^2=0.19^{***}$) | Beta | 95%CI | VIF |
|-----------------------------------|---------|-----------------|------|
| Social phobia | 0.34*** | [0.055, 0.109] | 1.15 |
| Self-oriented perfection | 0.02 | [-0.017, 0.022] | 1.34 |
| Socially prescribed perfectionism | 0.14* | [0.005, 0.052] | 1.29 |
| Intrinsic learning motivation | -0.07 | [-0.014, 0.003] | 1.08 |

| Predictors ($R^2=0.19^{***}$) | Beta | 95%CI | VIF |
|---|--------|-----------------|------|
| Social phobia x self-oriented perfectionism | -0.02 | [-0.008, 0.005] | 1.29 |
| Social phobia x socially prescribed perfectionism | 0.05 | [-0.005, 0.013] | 1.25 |
| Social phobia x intrinsic learning motivation | -0.12* | [-0.006, 0.000] | 1.10 |

* $p < .05$, *** $p < .001$

Table 6

Regression Analysis for Impairment in Leisure Activities

| Predictors ($R^2=0.10^{***}$) | Beta | 95%CI | VIF |
|---|--------|-----------------|------|
| Social phobia | 0.12* | [0.000, 0.036] | 1.15 |
| Self-oriented perfection | 0.18** | [0.006, 0.032] | 1.34 |
| Socially prescribed perfectionism | 0.02 | [-0.013, 0.018] | 1.29 |
| Intrinsic learning motivation | 0.03 | [-0.004, 0.007] | 1.08 |
| Social phobia x self-oriented perfectionism | -0.08 | [-0.007, 0.001] | 1.29 |
| Social phobia x socially prescribed perfectionism | 0.02 | [-0.005, 0.007] | 1.25 |
| Social phobia x intrinsic learning motivation | 0.20** | [0.001, 0.005] | 1.10 |

* $p < .05$, ** $p < .01$, *** $p < .001$

Beta coefficient for social phobia ($\beta=0.13$, $p < .05$) and the interaction between social phobia and socially prescribed perfectionism ($\beta=0.13$, $p < .05$) were significant in predicting impairment in home life. Simple slope analysis showed that social anxiety had a pronounced effect on impairment in home life when socially prescribed perfectionism was high ($\beta=0.27$, $p < .01$), but this effect was not significant when socially prescribed perfectionism was low ($\beta=-0.01$, $p = n.s.$). Thus, the results provided support for hypothesis (B), and it was suggested that socially prescribed perfectionism was associated with greater home life impairment in socially anxious adolescents.

For impairment in friendship, beta coefficients for social phobia ($\beta=0.33$, $p < .001$), self-oriented perfectionism ($\beta=0.12$, $p < .05$), the interaction between social phobia and self-oriented perfectionism ($\beta=-0.17$, $p < .01$), and the interaction between social phobia and intrinsic learning motivation ($\beta=0.11$, $p < .05$) were significant. Simple slope analysis showed that social anxiety had a pronounced effect on impairment in friendship when self-oriented perfectionism was low ($\beta=0.49$, $p < .001$). The effect of social anxiety was weaker albeit significant when self-oriented perfectionism was high ($\beta=0.18$, $p < .05$). While self-oriented perfectionism is associated with higher friendship impairment on its own, it may act as a protective factor in socially anxious adolescents. Similarly, social anxiety had a stronger effect on friendship impairment when intrinsic learning motivation was high ($\beta=0.44$, $p < .001$). The result was in support of hypothesis (C); the effect of social anxiety was weaker when intrinsic motivation was low ($\beta=0.22$, $p < .01$).

With regards to impairment in classroom learning, beta coefficients for social phobia ($\beta=0.34$, $p<.001$), socially prescribed perfectionism ($\beta=0.14$, $p<.05$), and the interaction between social phobia and intrinsic learning motivation ($\beta=-0.12$, $p<.05$) were significant. Simple slope analysis showed that social anxiety had a stronger effect on impairment in classroom learning when intrinsic motivation was low ($\beta=0.46$, $p<.001$). The results contradicted hypothesis (C). The effect of social anxiety was weaker when intrinsic motivation was high ($\beta=0.21$, $p<.05$).

As for impairment in leisure activities, beta coefficients for social phobia ($\beta=0.12$, $p<.05$), self-oriented perfectionism ($\beta=0.18$, $p<.01$), and the interaction between social phobia and intrinsic learning motivation ($\beta=0.20$, $p<.01$) were significant. Simple slope analysis showed that social anxiety had a stronger effect on friendship impairment when intrinsic motivation was high ($\beta=0.33$, $p<.001$), which was in accordance with hypothesis (C). The effect of social anxiety was not significant when intrinsic motivation was low ($\beta=-0.09$, $p=n.s.$).

4. DISCUSSION

The present study examined the influence of social anxiety symptoms, perfectionism, and intrinsic learning motivation on behavioral impairment, with an emphasis on the interaction effect between social anxiety symptoms and perfectionism/ learning motivation. Polyserial correlation between social anxiety symptoms and the SDQ impact supplement showed that social anxiety symptoms were moderately correlated with subjective distress levels, as well as impairment in friendship and classroom learning domains. Such results are in line with previous studies which show that adolescent social phobia is associated with serious impairment, especially in the domains of interpersonal relationships (La Greca and Lopez, 1998) and academic achievement (e.g., de Lijster et al., 2018). Social anxiety symptoms also showed a weak correlation with impairment in home life and leisure domains, and impact on others. These results show that while strongest correlation is with impairment in friends and school domains, adolescents' social anxiety symptoms may be related with adverse family life and extracurricular activities as well. The weakest correlation was between symptom severity and how long these difficulties have been present. As previously mentioned, social anxiety persists over years, but symptom severity fluctuates (Merikangas et al., 2002). Therefore, the sum of social anxiety symptoms was not necessarily strongly associated with duration of impairment.

For the regression analyses, social anxiety symptom was the only variable that was significantly associated with behavioral impairment in all 4 domains. Self-oriented perfectionism was correlated with impairment in friendships and leisure activities. Many previous studies failed to find a specific relationship between self-oriented perfectionism and

interpersonal problems (e.g., Stoeber et al., 2021). However, there are studies showing that self-oriented perfectionism is associated with evaluation anxiety (Newby et al., 2017) and depression (Hewitt and Flett, 1991b). These factors may have contributed to the increased burden in friendships and extracurricular activities domains. Furthermore, the interaction between social phobia and self-oriented perfectionism was significantly associated with impairment in friendships. Here, the association between social anxiety symptoms and friendship impairment was weaker when self-oriented perfectionism was high. As Stoeber et al. (2009) note, self-oriented perfectionism is an ambivalent form of perfectionism associated with both psychopathological symptoms and positive interpersonal characteristics, such as conscientiousness, self-esteem, and positive affect. This may be responsible for the mixed results of the present study, in which direct effect functions negatively, while moderator effect functions positively, toward friendship retainment.

Socially prescribed perfectionism was significantly associated with impairment in classroom learning. Socially prescribed perfectionism is, in its extreme form, compulsive sense of being obliged to be perfect in ways that are publicly recognizable and demanded (Flett et al., 2022). As a result, the sense of failing to live up to the highly salient expectations emerges, which can be deleterious in pursuing classroom learning. Furthermore, the interaction effect between social phobia and socially prescribed perfectionism was significant for impairment in home life; socially prescribed perfectionism magnified the negative association of social anxiety. Perceived high standards from the society, in combination with social evaluative concerns, might result in workaholism and excessive effort to achieve the demanded high standards. This may have compromised or interfered with family life and relationships.

Intrinsic learning motivation was not a direct predictor for any of the behavioral impairment domains. However, significant interaction effects between social anxiety symptoms and intrinsic learning motivation emerged. Specifically, impairment in friendships, classroom learning, and leisure activities were significantly associated with the interaction effect. For the classroom learning domain, social anxiety had less effect on impairment when intrinsic motivation was high. Intrinsic motivation may mitigate the negative effects of social evaluative concerns and enable students to enjoy learning out of challenge, curiosity, or sense of mastery. However, for friendships and leisure activities domains, the effects were the opposite: social anxiety had a stronger effect when intrinsic learning motivation was high. High intrinsic learning motivation, together with high social evaluative concerns, may encourage students to make greater academic efforts, but this may interfere with the time spent for other activities, such as with friends or for leisure.

In sum, social anxiety symptoms are associated with behavioral impairment in all domains, and especially in friendship and classroom learning. Learning motivation may help student with high social anxiety symptoms to enjoy the process of learning per se and

shield them from the negative effects of social evaluative concerns, but at the same time, may interfere with personal life, such as friendship and leisure activities. Perfectionism, whether self-oriented or socially prescribed, also encourages one to devote time and effort towards academic performance, but this may interfere with activities outside the classroom.

These results hold several implications for educators and mental health staff working within the school setting. First, school is an important outlet for students not only to attain educational goals but also to receive mental health services when required. Intrinsic learning motivation might help them minimize the effect of social anxiety symptoms, thereby preventing premature dropout.

Second, perfectionism and excessive focus on classroom activities appears to interfere with home life, friendship, and leisure activities. Educators should be aware that the perfectionistic student sensitive to social evaluation, while behaving attentively in class and handing in quality assignments, may be doing so at the expense of their personal relationships and extracurricular activities. Since adolescence is a critical period for socio-emotional development, difficulties in the friendship domain are especially serious in this population. Impairment should be assessed comprehensively, and interpersonal relationships outside the school setting should be taken into account.

Third, while intrinsic learning motivation may be beneficial in preventing impairment for socially anxious individuals in classroom learning, it can promote impairment in friendship and leisure domains. Such potential negative effects should be averted not by lowering levels of motivation, but by treating social anxiety. In other words, prevention and early intervention of social anxiety will enable students to fully enjoy their studies, and at the same time help them appreciate activities or relationships outside of the academic domain, shifting from “what they need to do” to “what they want to do”.

Some common approach to enhance intrinsic motivation within the classroom include (1) promoting student autonomy by allowing choice and input into different activities, (2) making classroom tasks, activities, and assignments meaningful and interesting, (3) providing students with optimal levels of challenge, and (4) encouraging students to focus on mastery and improvement rather than solely focusing on grades and test scores (Jansen et al., 2022). In addition, teacher-student relationships, such as close communication and teacher support, as well as the quality of instructional practices and feedback techniques, are strong predictors of students' academic motivation. From the scope of social anxiety intervention, a wide range of efficacious cognitive-behavioral programs that can be implemented in the school setting are offered. These include the FRIENDS program (Barrett et al., 2000), Cool Kids Anxiety Program (Rapee et al., 2006), Skills for Academic and Social Success (Masia-Warner et al., 1999), and Super Skills for Life (Essau and Ollendick, 2013). Accordingly, teachers and mental health professionals can work together to meet the needs of the individual student.

There are some limitations to the present study that should be considered in interpreting the results. First, participants were a convenience sample of students drawn from the selected schools. While participation rate was high, there was a significant asymmetry in the number of males and females. These methodological shortcomings may have influenced the results. Second, the CAPS and MSLQ have been translated for the purposes of this study. While both measures have been translated according to conventional guidelines and demonstrate moderate internal consistency, measurement invariance was not directly examined in comparison with the original language. Third, all measurement was based on self-report by the adolescents. While the use of self-report is recommended when measuring internalizing symptoms and impairment (The Good Childhood Report, 2019), it should nevertheless be noted that the correlation between variables may be inflated by the use of a common methodology. Finally, our results are based on a sample of German adolescents, and it is unknown whether these findings can be extended to samples derived from other countries and cultural backgrounds.

In spite of these limitations, the present study highlights the importance of motivational factors in minimizing behavioral impairments in adolescents with social anxiety symptoms. Future studies should pursue how to encourage self-regulated behaviour in these individuals, as well as environmental factors that provide support in actualizing such behaviour.

REFERENCES

- Aderka, I. M., Hofmann, S. G., Nickerson, A., Hermesh, H., Gilboa-Schechtman, E., & Marom, S. (2012). Functional impairment in social anxiety disorder. *Journal of Anxiety Disorders*, 26, 393-400. <https://doi.org/10.1016/j.janxdis.2012.01.003>.
- Barrett, P. M., Lowry-Webster, H., & Turner, C. (2000). *FRIENDS program for children: Group leaders manual*. Brisbane: Australian Academic Press.
- Barzilay, S. , Apter, A., Snir, A., Carli, V., Hoven, C. W., Sarchiapone, M., Hadlaczky, G., Balazs, J., Keresztesy, A., Brunner, R., Kaess, M., Bobes, J., Saiz, P. A., Cosman, D., Haring, C., Banzer, R., McMahon, E., Keeley, H., Kahn, J. P., Postuvan, V., Podlogar, T., Sisask, M., Varnik, A., & Wasserman, D. (2019). A longitudinal examination of the interpersonal theory of suicide and effects of school-based suicide prevention interventions in a multinational study of adolescents. *Journal of Child Psychology and Psychiatry*, 60, 1104-1111. <https://doi.org/10.1111/jcpp.13119>.
- Beesdo, K., Bittner, A., Pine, D. S., Stein, M. B., Höfler, M., Lieb, R., & Wittchen, H. U. (2007). Incidence of social anxiety disorder and the consistent risk for secondary depression in the first three decades of life. *Archives of General Psychiatry*, 64, 903-912. <https://doi.org/10.1001/archpsyc.64.8.903>.

- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*, 185-216. <https://doi.org/10.1177/135910457000100301>.
- Burns, B. J., Costello, E. J., Angold, A., Tweed, D., Stangl, D., Farmer, E. M., & Erkanli, A. (1995). Children's mental health service use across service sectors. *Health Affairs, 14*, 147-159. <https://doi.org/10.1377/hlthaff.14.3.147>.
- Chavira, D. A., & Stein, M. B. (2005). Childhood social anxiety disorder: From understanding to treatment. *Child and Adolescent Psychiatric Clinics of North America, 14*, 797-818. <https://doi.org/10.1016/j.chc.2005.05.003>.
- The Children's Society (2019). *The Good Childhood Report*. https://saphna.co/wp-content/uploads/2019/11/the_good_childhood_report_2019.pdf
- Credé M., & Phillips, L. A. (2011). A meta-analytic review of the Motivated Strategies for Learning Questionnaire. *Learning and Individual Differences, 21*, 337-346. <https://doi.org/10.1016/j.lindif.2011.03.002>.
- de Lijster, J. M., Dieleman, G. C., Utens, E. M. W. J., Dierckx, B., Wierenga, M., Verhulst, F. C., & Legerstee, J. S. (2018). Social and academic functioning in adolescents with anxiety disorders: A systematic review. *Journal of Affective Disorders, 230*, 108-117. <https://doi.org/10.1016/j.jad.2018.01.008>.
- Duncan, T. G., & McKeachie, W. J. (2005). The making of the Motivated Strategies for Learning Questionnaire. *Educational Psychologist, 40*, 117-128. https://doi.org/10.1207/s15326985ep4002_6.
- Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5-12. <https://doi.org/10.1037//0022-3514.54.1.5>.
- Essau, C. A., Conradt, J., & Petermann, F. (1999). Frequency and comorbidity of social phobia and social fears in adolescents. *Behaviour Research and Therapy, 37*, 831-843. [https://doi.org/10.1016/s0005-7967\(98\)00179-x](https://doi.org/10.1016/s0005-7967(98)00179-x).
- Essau, C. A., & Ollendick, T. H. (2013). *The Super Skills for Life Programme*. London, UK: University of Roehampton. https://www.superskillsforlife.com/copy-of-home#:~:text=Super%20Skills%20for%20Life*%20is,such%20as%20anxiety%20and%20depression.
- Flett, G. L., Hewitt, P. L., Besser, A., Su, C., Vaillancourt, T., Boucher, D., Munroe, Y., Davidson, L. A., & Gale, O. (2016). The child-adolescent perfectionism scale: Development, psychometric properties, and associations with stress, distress, and psychiatric symptoms. *Journal of Psychoeducational Assessment, 34*, 634-652. <https://doi.org/10.1177/0734282916651381>.
- Flett, G. L., Hewitt, P. L., Nepon, T., Sherry, S. B., & Smith, M. (2022). The destructiveness and public health significance of socially prescribed perfectionism: A review,

- analysis, and conceptual extension. *Clinical Psychology Review*, 93, 102130. <https://doi.org/10.1016/j.cpr.2022.102130>.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14, 449-468. <https://doi.org/10.1007/BF01172967>.
- Ghinea, D., Koenig, J., Parzer, P., Brunner, R., Carli, V., Hoven, C. W., Sarchiapone, M., Wasserman, D., Resch, F., Kaess M. (2019). Longitudinal development of risk-taking and self-injurious behavior in association with late adolescent borderline personality disorder symptoms. *Psychiatry Research*, 273, 127-133. <https://doi.org/10.1016/j.psychres.2019.01.010>.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581-586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>.
- Gottfried, A. E. (1985). Academic intrinsic motivation in elementary and junior high school students. *Journal of Educational Psychology*, 77, 631-645. <https://doi.org/10.1037/0022-0663.77.6.631>.
- Hewitt, P. L., & Flett, G. L. (1991a). Dimensions of perfectionism in unipolar depression. *Journal of Abnormal Psychology*, 100, 98-101.
- Hewitt, P. L., & Flett, G. L. (1991b). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456-470. <https://doi.org/10.1037/0021-843x.100.1.98>.
- Hulleman, C. S., Schrage, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin*, 136, 422-449. <https://doi.org/10.1037/a0018947>.
- Jansen, T., Meyer, J., Wigfield, A., & Möller, J. (2022). Which student and instructional variables are most strongly related to academic motivation in K-12 education? A systematic review of meta-analyses. *Psychological Bulletin*, 148, 1-26. <https://doi.org/10.1037/bul0000354>.
- Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Üstün, T. B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*, 20, 359-364. <https://doi.org/10.1097/YCO.0b013e32816ebc8c>.
- La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relationships and friendship. *Journal of Abnormal Child Psychology*, 26, 83-94. <https://doi.org/10.1023/a:1022684520514>.

- Laurenti, H. J., Bruch, M. A., & Haase, R. F. (2008). Social anxiety and socially prescribed perfectionism: Unique and interactive relationships with maladaptive appraisal of interpersonal situations. *Personality and Individual Differences, 45*, 55-61. <https://doi.org/10.1016/j.paid.2008.02.018>.
- Lepper, M. R., Corpus, J. H., & Iyengar, S. S. (2005). Intrinsic and extrinsic motivational orientations in the classroom: Age differences and academic correlates. *Journal of Educational Psychology, 97*, 184–196. <https://doi.org/10.1037/0022-0663.97.2.184>.
- Masia, C., Beidel, D. C., Albano, A. M., Rapee, R. M., Turner, S. M., Morris, T. L., & Klein, R. G. (1999). *Skills for Academic and Social Success*. Unpublished manuscript.
- McInerney, D. M., Yeung, A. S., & McInerney, V. (2001). Cross-cultural validation of the Inventory of School Motivation (ISM): Motivation orientations of Navajo and Anglo students. *Journal of Applied Measurement, 2*, 135–153.
- McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research, 45*, 1027-1035. <https://doi.org/10.1016/j.jpsychires.2011.03.006>.
- Merikangas, K. R., Avenevoli, S., Acharyya, S., Zhang, H., & Angst, J. (2002). The spectrum of social phobia in the Zurich cohort study of young adults. *Biological Psychiatry, 51*, 81-91. [https://doi.org/10.1016/s0006-3223\(01\)01309-9](https://doi.org/10.1016/s0006-3223(01)01309-9).
- Mills, J. S., & Blankenstein, K. R. (2000). Perfectionism, intrinsic vs extrinsic motivation, and motivated strategies for learning: A multidimensional analysis of university students. *Personality and Individual Differences, 29*, 1191-1204. [https://doi.org/10.1016/S0191-8869\(00\)00003-9](https://doi.org/10.1016/S0191-8869(00)00003-9).
- Newby, J., Pitura, V. A., Penney, A. M., Klein, R. G., Flett, G. L., & Hewitt, P. L. (2017). Neuroticism and perfectionism as predictors of social anxiety. *Personality and Individual Differences, 106*, 263-267. <https://doi.org/10.1016/j.paid.2016.10.057>.
- Osenk, I., Williamson, P., & Wade, T. D. (2020). Does perfectionism or pursuit of excellence contribute to successful learning? A meta-analytic review. *Psychological Assessment, 32*, 972-983. <https://doi.org/10.1037/pas0000942>.
- Pintrich, P. R., & de Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33–40. <https://doi.org/10.1037/0022-0663.82.1.33>.
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A Manual for the Use of the Motivated Strategies for Learning Questionnaire*. Ann Arbor, MI: National Center for Research to Improve Postsecondary Teaching and Learning.

- Rapee, R. M., Lyneham, H. J., Schniering, C. A., Wuthrich, V., Abbott, M. J., Hudson, J. L., & Wignall, A. (2006). *The Cool Kids Child and Adolescent Anxiety Program Therapist Manual*. Sydney: Centre for Emotional Health, Macquarie University.
- Ruscio, A. M., Brown, T. A., Chiu, W. T., Sareen, J., Stein, M. B., & Kessler, R. C. (2007). Social fears and social phobia in the USA: Results from the National Comorbidity Survey Replication. *Psychological Medicine*, *38*, 15-28. <https://doi.org/10.1017/S0033291707001699>.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*, 54-67. <https://doi.org/10.1006/ceps.1999.1020>.
- Strauss, C. C., Frame, C. L., & Forehand, R. (1987). Psychosocial impairment associated with anxiety in children. *Journal of Clinical Child Psychology*, *16*, 235-239. https://doi.org/10.1207/s15374424jccp1603_8.
- Stoeber, J., Feast, A. R., & Hayward, J. A. (2009). Self-oriented and socially prescribed perfectionism: Differential relationships with intrinsic and extrinsic motivation and test anxiety. *Personality and Individual Differences*, *47*, 423-428. <https://doi.org/10.1016/j.paid.2009.04.014>.
- Stoeber, J., Smith, M. M., Saklofske, D. H., & Sherry, S. B. (2021). Perfectionism and interpersonal problems revisited. *Personality and Individual Differences*, *169*, 110106. <https://doi.org/10.1016/j.paid.2020.110106>.
- Van Ameringen, M., Mancini, C., & Fervolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of Anxiety Disorders*, *17*, 561-571. [https://doi.org/10.1016/S0887-6185\(02\)00228-1](https://doi.org/10.1016/S0887-6185(02)00228-1).
- Vilaplana-Pérez, A., Pérez-Vigil, A., Sidorchuk, A., Brander, G., Isomura, K., Hesselmark, E., Kula-Halkola, R., Larsson, H., Mataix-Cols, D., & Fernández de la Cruz, L. (2021). Much more than just shyness: The impact of social anxiety disorder on educational performance across the lifespan. *Psychological Medicine*, *51*, 861-869. <https://doi.org/10.1017/S0033291719003908>.
- Wong, N., Sarver, D. E., & Beidel, D. C. (2012). Quality of life impairments among adults with social phobia: The impact of subtype. *Journal of Anxiety Disorders*, *26*, 50-57. <https://doi.org/10.1016/j.janxdis.2011.08.012>.

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