Coping with Anxiety Sensitivity during Adolescence
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Abstract
The relation between Anxiety Sensitivity (AS) and certain anxiety disorders such as Panic Disorder and the panic response itself are well established by theory and research. Adolescence is understood to be a risk period for the development of Anxiety disorders. Certain styles of coping such as avoidance has been suggested to be risk factors as well. In this study, the relation between AS and coping is explored using self-report measures (CASI-R and A-COPE), aiming to see if adolescents with high or low AS have an association with certain coping styles, understood by theory also to be potential risk factors. No reliable association were found between groups with high or low AS and any coping style. AS and total extent of coping did not correlate. A small and negative, significant correlation was found between age and AS.

Coping with Anxiety Sensitivity during Adolescence

Background

Anxiety sensitivity (AS), describes the fear of anxiety related sensations and the belief that such sensations have harmful consequences, (McNally, 2010). To illustrate AS, a distinction between a similar concept, Trait anxiety (TA) can be drawn. TA denotes an individual's proneness to feel anxiety in a given situation. Difference between individuals with regards to TA is thought of as the degree to which an individual is likely to respond with anxiety symptoms to a stressor. Difference between individuals with regards to AS however can be thought of as the degree to which the individual would believe that those very same anxiety symptoms are dangerous, or harbingers of disaster. AS has been shown to be factorially distinct from TA, but hierarchically organized underneath it (Taylor, 1994). As shall be discussed the theoretical foundations of this thesis, AS has been suggested to be an important factor in panic(Sandin et al., 2015), and tied to anxiety disorder, (McNally, 2010)

Theoretical background
In attempting to get to the bottom of the genesis of panic disorders, it has been suggested that Interoceptive Conditioning may play an important role. Just as a bell or a tone can become a
conditioned stimulus (CS) to give rise to a conditioned response (CR), internal cues might play an important part as well in a panic response, namely palpitations or dyspnea. This explanation has been described as conceptually unclear since the supposed CR are constructive of the supposed CS, (McNally, 2010).

Clark's cognitive approach to panic is a well-known cornerstone of the contemporary understanding of panic disorder. It stresses the role of catastrophic misinterpretation of bodily sensations in the circular process culminating in a panic attack, (Clark, 1986). The theory complicated a previous primarily biological understanding of panic, stressing the importance of cognitive factors. An unexplained paradox in the theory however was that contrary to clinical observations, people that have survived multiple panic attacks should not continue to interpret bodily sensations catastrophically, since their beliefs regarding the danger posed by the sensations should have been disproven. A behavioural explanation for this paradox was the observation that panic patients that frequently engage in avoidance behaviours misattribute their survival to their efforts to prevent disaster, (McNally, 2010). Today, avoidance is well understood to be a key maintaining factor of Clark's vicious panic circle, (Westbrook, 2011). AS is understood to increase the likelihood of negative reactions such as panic attacks in adults faced with stressful situations or challenging tasks, and is thought of as an amplifying factor of anxiety. It is also understood to be prevalent in anxiety disorders such as panic attacks and agoraphobia (McNally, 2010).

Naragon-Gainey (2010) performed a meta-analysis with the aim of understanding the specificity and magnitude of the relations of AS to internalizing disorders, namely; Panic Disorder (PD), (with or without agoraphobia), Social phobia (SD), Generalized Anxiety Disorder (GAD), Obsessive Compulsive Disorder (OCD), Post-Traumatic Stress Disorder (PTSD), and Specific Phobia. The author used data from (n=117) studies including studies that had; a) assessed both AS and internalizing disorders using the English version of the Anxiety Sensitivity Index (ASI), b) diagnosed psychopathology by the use of clinical interview and DSM-IV criteria rather than self-report measures, c) appropriate reports of mean and SD scores, and d) measured AS at a baseline if the study involved manipulation. Furthermore, if reporting correlational data between AS and core symptoms of the disorders in question, studies were included if they used measures that a) used DSM-IV criteria for that disorder as a basis for development of the measure or b) the measures assessed the core symptoms required for a diagnosis of that disorder according to DSM-IV. The author write that the findings suggested that AS were most strongly related to PD, GAD and PTSD and that cognitive and physical components of AS were the most closely related to panic. Broadly speaking, the author argued that their findings to a varying degree demonstrated a relation between AS and all investigated internalizing disorders, (Naragon-Gainey, 2010).

Sandin et al. (2015) investigated if AS, catastrophic misinterpretation of panic symptoms and self-efficacy in coping with panic independently could predict Panic Disorder severity. Their sample consisted of (n=168) adults seeking treatment at a health centre in Spain. Through structured clinical interviews and self-report measures, AS and Catastrophic misinterpretation were shown to significantly predict PD independent of each other, controlling for each other. This meant, argued the researchers, that AS and Catastrophic Misinterpretation are separate factors with independent effects on PD. The authors use their findings to expand upon Clark's circular model of panic, adding AS and Panic Self Efficacy as additional cognitive factors with impact upon threat perception, akin to that of Catastrophic Misinterpretation, (Sandin, Sánchez-Arribas, Chorot & Valiente, 2015).
Developmental perspective on AS and Anxiety

Taylor et al. (2010) write that although research suggest that panic attacks may be predicted by AS in adults, this remains to be studied in adolescent samples, an age group otherwise vulnerable to the development of anxiety disorders, (Taylor, Rabian & Fedoroff, 2010).

In a meta-analysis with the aim to estimate the age of onset of anxiety disorders DeLijster et al. (2017) chose (n=24) studies published before October 2014, the inclusion criteria being that data on the Age of onset (A00) for all or specific anxiety disorders had to be according to DSM-III-R, DSM-IV or ICD-10 criteria. The authors report that A00 ranged from early adolescence to late adulthood and that the general mean A00 for anxiety disorders were 21.3 (age range: 17.46 to 25.07 with a confidence interval of 95%). The authors argue that their findings could be used to guide preventive work with emerging anxiety disorders among vulnerable groups, targeting contributing factors. (DeLijster et al. 2017).

In his theory synthesizing research on children’s anxiety, Weems presented a model of developmental trajectories of children’s anxiety. In summary, the model conceptualizes four major classes of children’s anxiety trajectories namely; stable and elevated (children with generally higher anxiety than their peers), decreasing (starting high and ending up in a normal range near adulthood), increasing (escalating over time) and stable low (a group where most adolescents would place having comparatively lower levels of anxiety). Weems also wrote that there are several normative influences that impact these trajectories of children’s anxiety, which for adolescents include the increasing salience of social fears in adolescence, and the emergence of uncued panic experiences, (Weems, 2008).

Allan et al. in their 2014 study, using the unrevised version of the Children’s Anxiety Sensitivity Inventory (CASI), partially found support for Weems model however, only finding three anxiety classes with elevated AS predicting class membership in the elevated anxiety class. They did not find support for the class that Weems conceptualized as increasing, (Allan, Capron & Lejuez. 2014).

Taken together, literature strongly suggest a relation between AS and anxiety disorders such as PD. Adolescents seem to be at an increased risk for developing these disorders. For some adolescents there might be a developmental component to levels of anxiety and thus possibly also AS.

Coping

Coping has been defined as some behavioural or cognitive effort or response to deal with a stressful situation or reduce or manage demands. The demands faced by adolescents include those arising from the development of their own biology, personality, and context. Generally, the function of coping is to 1) Reduce demands/increase resources (Problem focused coping); 2) Redefining demands (appraisal focused coping); and 3) Management of the tension arising from the experience of demands, (emotion focused coping). Coping is a multidimensional process and often address a pile up of different types of demands, which means that there usually is overlap between the functions served by most coping strategies. (Patterson & McCubbin, 1987).

Exploring the relationships between coping strategies, coping efficacy and anxiety symptoms for Canadian children, Thorne (2013) broadly hypothesized in her dissertation
that coping efficacy would mediate the relationships between active and avoidant coping, and childhood anxiety. Coping efficacy was defined as one's own subjective evaluation of one's ability to successfully deal with stressors, and a belief in one's own ability to do so, and actualize positive outcomes. Using the Children’s Coping Strategies Checklist - Revised1 (CCSC-R1), The Children’s Coping Self Efficacy Questionnaire (CCSEQ), and Spence’s Children Anxiety Scale (SCAS), Thorne collected data from 522 participants (249 boys, 245 girls, 12 unknown). Results confirmed the first hypothesis: that active coping (that is including strategies that are either problem or appraisal focused) would have a positive effect on coping efficacy. Furthermore, Thorne had expected the relationship between avoidance, distraction and support seeking coping to have a negative association with coping efficacy, which the results did not support however. Additionally, Thorne expected in her second hypothesis that coping efficacy would negatively impact anxiety symptoms, a hypothesis that were indeed supported. Thorne’s third and final hypothesis regarding coping and anxiety symptoms successfully predicted that active coping would relate negatively to anxiety symptoms and coping oriented towards avoidance, support seeking and distraction would relate positively to anxiety levels, with the exception of distracting coping strategies for which no significant relation was found to anxiety symptoms. The main finding, Thorne stressed were that coping efficacy could be said to mediate the relation between active coping and anxiety levels, (Thorne, 2013).

Partly in line with Thorne’s findings, Viswanantha et al. (2015) write that there is no way to identify which coping style or strategy is “the best”, but that the impact of coping needs to be understood with regards to adaptive or non-adaptive indicators of mental health. From their study they put forward that both problem focused, as well as emotion focused coping strategies may be impactful in helping the individual to achieve a sense of mastery over the situation. (Vishwanantha, Palmquist & Nordin, 2015). While it may seem counterproductive to some to not use direct, problem focused strategies, using emotional or appraisal focused coping may be the best choice at hand for situations where demands are internally felt (such as may be the case with AS), or in a situation where the individual for instance may be suffering from terminal diseases.

A study by S. T. Sigmon et al. (2004) that explored whether menstrual distress is associated with particular coping styles among women varying in anxiety sensitivity among other conditions. Through the use of the ASI (Anxiety Sensitivity Index), and The COPE - inventory, the researchers found that women with High AS preferred coping strategies, theoretically thought of as maladaptive (such as avoidance), and associated with depression and heightened anxiety. The authors describe maladaptive coping as something that people with high AS and Panic disorder often have in common to some degree, (Sigmon, Whitcomb-Smith, Rohan & Kendrew, 2004).

Taken together, literature on coping provide no clear answer for universal strategies that are universally adaptive. There are indications that some strategies such as avoidance could be maladaptive and relate positively to anxiety levels, and that others (problem or appraisal focused) relate negatively to anxiety levels and positively to one’s own coping efficacy. Coping remain however a multidimensional process that deal with several different demands depending on many factors.

Theoretical Summary
Anxiety Sensitivity has been understood to be increasing the chance of negative reactions such as panic attacks. Regarding Panic Disorder, AS has been found to have an independent effect on panic attacks apart from Catastrophic Misinterpretation. Furthermore, AS has been found to be associated with all anxiety disorders but most strongly with PD, GAD and PTSD. Age of onset for anxiety disorders have been shown to occur in late adolescence to early adulthood, and it has been suggested that there are developmental trajectories of children’s anxiety that normative influences has an impact upon. Coping styles that theoretically are understood as maladaptive has been suggested to be related to elevated levels of AS.

Given what is known about AS as a risk factor, the fact that Adolescents are at an increased risk for the conditions in question, and finally that maladaptive coping has been indicated to be related to heightened AS, investigating the associations between AS and coping could potentially provide insights that would be of value in the preventive treatment of the discussed disorders. If Adolescents with heightened levels of AS could be shown to prefer one coping style over another (Avoidance oriented for instance), it would add to what is already known of anxiety disorder risk or protective factors for this otherwise vulnerable group.

**Aims of the thesis**

The aim of the thesis was to understand the association between coping styles and anxiety sensitivity within a nonclinical adolescent population in Sweden. Specifically, it would be of interest to see if any coping strategies theoretically understood to be more adaptive or maladaptive could be tied to high or low levels of AS respectively.

**Research question**

What is the association between coping styles and levels of AS, and more specifically can high or low levels of AS could be shown to be associated with any specific coping style or styles?

**Methods**

**Participants**

Data was collected from (N=111) participants between the ages of 16-21 (M_{age}=17.74, SD=.973). Out of that, 22,5 % identified themselves as male (n=25), 76,6% identified as female (n=85) and 0.9% identified as nonbinary (n=1). A majority of the participants lived with both parents. A majority of the sample also had either one or no siblings.

**Measures**

*Children’s Anxiety Sensitivity Inventory-Revised (CASI-R)*

CASI-R is a self-report questionnaire where the participant is asked grade 31 statements on a 0-2 point scale, two meaning true, one meaning somewhat true and zero meaning not true.
The items are grouped into four subscales which represent different aspects of anxiety sensitivity. Higher scores on either the whole scale or the subscale indicate higher levels of Anxiety sensitivity.

AS was originally theorized to be a unidimensional construct (McNally, 2010). Following this, there has been some controversy in regards to the factor structure of the construct as measured by the Anxiety Sensitivity Inventory (ASI), the most commonly used instrument to measure AS. Evidence has not clearly supported AS as a unitary construct as originally theorized nor the contrary position, that AS consists of several specific dimensions (Zinbarg et al. 2010).

A synthesis of these extreme positions was proposed by Lilienfeld, Turner & Jacob (1993), who suggested that AS was itself a hierarchical construct with a single higher order, general factor consisting of several more specific lower order factors. This was lately supported by findings by Zinberg et al. (2010) who named the three factors AS-Physical Concerns, AS-Mental Incapacitation Concerns, and AS-Social Concerns, (Zinbarg, Mohlman & Hong, 2010).

ASI was originally conceived of as a 16-item questionnaire exploring fears and catastrophic perceptions tied to anxiety-related sensations in adult populations. Silverman et al. (1991) developed a version of the instrument for use with adolescents and children which Muris (2002) later validated a revision of (CASI-R), thereby demonstrating the internal consistency and further addressed convergent and discriminant validity of the questionnaire. Through a confirmatory factor analysis it was noted that a hierarchical model with four (rather than Lilienfeld proposed three) lower order factors all loading on one higher order factor, provided the best fit for the data. The four lower order factors, with their respective alpha scores in parenthesis as reported by the authors were: Fear of 1) Cardiovascular symptoms (α = .88), 2) Fear of Publicly observable anxiety symptoms (α = .85), 3) Cognitive Dyscontrol (α = .81), and 4) Fear of respiratory symptoms (α = .88), all loading on one higher order factor (AS). Furthermore, proof of internal and external validity were obtained, (Muris, 2002).

Measurement of Coping
Patterson and McCubbin (1987) developed the Adolescent Coping Orientation for Problem Experiences. After factor analysing and revising their own questionnaire, it contained 54 items loading on 12 factors. All factors were shown to have an eigenvalue greater than 1. The authors grant that there are various functions of coping such as problem, emotion or appraisal-, focused, but stress that a given coping strategy can serve multiple functions at once, e.g. Engaging in Demanding Activity which serves to increase resources (problem focused) as well as managing tension (emotion focused). According to a meta-analysis by Kato, 2013) over the most frequently used coping measures, A-COPE is among the most frequently used questionnaires when conducting coping research among adolescents. Furthermore, it was explicitly designed with adolescents in mind, (Kato, 2013).

The 12 subscales of A-COPE, with their alpha scores as reported by the authors in parenthesis were: Ventilating feelings (α = .75), Seeking Diversions (α = .75), Developing Self Reliance and Optimism (α = .69), Developing Social Support (α = .75), Solving Family Problems (α = .75), Avoiding Problems (α = .71), Seeking Spiritual Support (α = .72), Investing in Close friends (α = .76), Seeking Professional Support (α = .50), Engaging in demanding activity (α = .67), Being Humorous (α = .72), and Relaxing (α = .60), (Patterson and McCubbin, 1987). A-COPE has previously been used on the target age group for this
study, for instance by Jorgensen and Dusek (1990), who examined the relation between psychosocial adjustment and coping strategies among a sample of (n=331) eighteen year old college undergraduates, (Jorgensen & Dusek, 1990).

Procedure
The participants were recruited through contact with teachers at several high schools in a town of northern Sweden. Initially the plan was to seek contact exclusively with English teachers so as to make administration in a classroom setting more natural given the languages of the measures. As worryingly few showed interest, the scope was expanded however and contact was established with teachers in other subjects such as psychology and philosophy as well. Verbal consent was acquired from the headmasters who were sent the measures and asked to judge the appropriateness of the content and level of language used in the measures. Some headmasters declined the opportunity to participate, often for concern of possible negative reactions among the participants. It was however the view of this researcher that this seemed to be the case almost exclusively for principals who had not yet been offered the opportunity to, or declined to read through the measures for themselves. Once verbal permission had been granted by the principal, or as was the case by for teacher that the principal in question had delegated this task to, a date was set where the measures would be administered in person by this researcher.

The participants were informed of the purpose of the study and what information that the survey would require of them, should they choose to participate. Data was collected groupwise in a classroom setting, during regular lessons with approximately 10-20 students at a time. The participants was also assured that their anonymity was to be maintained, that participation was entirely voluntary and that was is ok to opt out of participation at any given time, without any consequences. As promised to the students the collected data was stored in a locked safe on the premises of the university when not used. The only inclusion criteria was that participants had to be 15 years or older and currently students at the given school, the reason for this being that they judged to be fluent enough in English to be able to answer the questionnaires in their standardized, untranslated form.

Coping was measured using A-COPE (Adolescent Coping Orientation for Problem Experiences), and Anxiety Sensitivity was measured using CASI-R (Children's Anxiety Sensitivity Inventory – Revised). The reliability of the instruments was later tested using Cronbachs Alpha. The alpha score for A-COPE was (a=,554) and (a=,812) for CASI-R as can be seen in Table 1.

Table 1.

<table>
<thead>
<tr>
<th>Cronbachs Alpha</th>
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<tbody>
<tr>
<td>Scale</td>
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<tr>
<td>A-Cope</td>
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<tr>
<td>Ventilating feelings:</td>
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<tr>
<td>Seeking Diversions:</td>
</tr>
<tr>
<td>Developing Self Reliance and Optimism:</td>
</tr>
<tr>
<td>Developing Social Support:</td>
</tr>
<tr>
<td>Solving Family Problems:</td>
</tr>
</tbody>
</table>


Avoiding Problems: .420
Seeking Spiritual Support .637
Investing in Close Friends .643
Seeking Professional Support: .482
Engaging in Demanding Activity: .510
Being Humorous: .348
Relaxing: .075

CASI-R .812
Fear of Respiratory Symptoms: .823
Fear of Publicly Observable Anxiety Symptoms: .746
Fear of Cardiovascular and Digestive Symptoms: .788
Fear of Cognitive Dyscontrol: .830

After the reliability had been tested the whole scales were correlated to investigate the possible relationship of Coping and AS. A new grouping variable based on the whole scale for AS was created where values 1 and 2 were assigned to those who scored +/- 1 SD from the mean respectively (Mean AS TOT = 17.972, SD = 10.05, AS Range = 46). The significance of difference between the groups was tested using an independent samples t-test. The t-test demonstrated the statistical difference of the mean scores of the high and low AS groups as can be seen in table 2.

Table 2.

<table>
<thead>
<tr>
<th>Independent Samples Test</th>
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<tr>
<td>Levene's Test for Equality of Variances</td>
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<td>Equal variances not assumed</td>
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<td>variances</td>
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</table>

**Ethical concerns**

Not only for practical reasons were the minimum age requirement for participation set at the age of fifteen, but for ethical reasons as well. At the age of fifteen the participants are judged to be able to consent to participation of the survey and to have developed an adequate level of proficiency in English, which would be a second language to the vast majority of participants. During administration however, the participants were assured that the researcher gladly would answer any question or provide clarification with regards to any of the items if they were difficult or confusing. On multiple occasions, this proved necessary. Anonymity of participants was be assured through not asking for, or otherwise recording any
data that could be used to identify them. The participants were assured that the information would be treated confidentially, were informed that participation was entirely voluntary, that it would mean no consequences whatsoever for them should they choose to participate and change their minds at any given point, and that feedback regarding the results would be readily available to them through contact with the teacher that were in the room.

### Results

The skewness and kurtosis for the whole scales of A-COPE and CASI-R were within acceptable limits and as such a normal distribution of the sample was assumed.

**Table 3.**

**Descriptive Statistics - CASI-R**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<td>Stati</td>
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<td>Statis</td>
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<tr>
<td>Total AS</td>
<td>107</td>
<td>AS</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
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<tr>
<td>Valid</td>
<td></td>
<td>Valid</td>
<td>(listwise)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.**

**Descriptive Statistics - A-COPE**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<td>Stati</td>
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<td>Stati</td>
<td>Stati</td>
<td>Statis</td>
<td>Statis</td>
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</tr>
<tr>
<td>Total Coping</td>
<td>109</td>
<td>Coping</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
<td>tic</td>
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<tr>
<td>Valid</td>
<td></td>
<td>Valid</td>
<td>(listwise)</td>
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</table>

The t-test for examining group differences among those with high and low AS with regards to coping did not show groups do differ significantly.

**Table 5.**

**Independent Samples Test**

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Difference</th>
<th>Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Coping</td>
<td>1.189</td>
<td>.283</td>
<td>.927</td>
<td>33</td>
<td>.360</td>
<td>-5.12092</td>
<td>5.52134</td>
<td>-16.35417 - 6.11234</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-932</td>
<td>32.517</td>
<td>.358</td>
<td>5.12092</td>
<td>5.49219</td>
<td>-16.30116</td>
<td>6.05933</td>
<td></td>
</tr>
</tbody>
</table>
The whole scales of CASI-R and A-COPE were shown to not correlate significantly or strongly. A small but significant negative correlation were found between AS and age however \((p<0.05)\) as can be seen in table 5. No significant correlation was found between age and Total Coping level.

Table 6. 

<table>
<thead>
<tr>
<th>Age of participant</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>Total AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of participant</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td>Total AS</td>
</tr>
<tr>
<td>N</td>
<td>110</td>
<td>106</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total AS</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
<th>106</th>
</tr>
</thead>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

Association between AS groups and coping styles

The high level AS group consisted of \((n=17)\) individuals from the upper end of the sample, and the low AS group consisted of \((n=19)\) from the lower end. A chi-squared test was run to test the association between the groups and their scores on the different coping subscales. For this purpose, the 12 coping subscales were also grouped into high and low users of the given coping style represented by the subscale. It was concluded that there were no significant group differences in the association of any of the subscales whatsoever, with the exception of Relaxing \((p<0.05)\), where an association with the high AS group were found. Though not significantly different from the low AS group, the coping subscales that were most frequently associated with the high AS group were Avoiding Problems, Being Humorous and Developing Social Support. Similarly, the subscales most frequently associated with the low AS groups were Avoiding Problems, Ventilating Feelings and Developing Self Reliance and Optimism.

Discussion

The aims of the thesis were to examine what the association between coping styles and Anxiety sensitivity, and more specifically if any level of AS could be tied to any specific coping style or styles. The T-test exploring group differences between the High and Low AS groups on the Total Coping scale showed no significant group differences, and additionally there was no significant correlation between the whole scales of AS and Coping, suggesting that
participants that registered higher levels of AS did not also cope to a greater extent. According to Thorne (2013), certain coping strategies were negatively associated with anxiety levels, as well as positively related to coping efficacy (albeit for a much younger sample than the current). Furthermore, some strategies (avoidance and support seeking) were positively related to anxiety symptom levels according to Thorne, which could mean that elevated use of these could place an individual at risk. In the end, increased use of coping in general could mean the use of both risk and protective factors. For this sample, coping did not correlate significantly with AS which means that it would be appropriate to attempt to understand the relation between coping and AS at the level of specific strategies instead.

The individuals with the highest and lowest AS, were significantly different enough to be grouped into two groups for the purpose of statistical analysis as shown by the independent samples t-test as can be seen in Table 2. This means that there was a significant enough difference in how dangerous the groups perceived anxiety symptoms to be, or the degree to which they view anxiety symptoms as dangerous or harbingers of danger at all. No coping subscale scores, that is the degree to which a coping styles/strategies were used, were shown to be associated to any of the AS groups, with the exception of the strategy Relaxing which were preferred by the High AS group. This result however should not be read too much into since the internal consistency of the subscale was really weak. What is clear however is that the result suggested no difference in the coping strategies or extent of coping employed by adolescents with high or low AS.

A possible interpretation of these findings is that the adolescents within the High-AS group can in fact not be said to be coping in any different extent or manner apart from the Low-AS group. The implication that adolescents with elevated AS seem not to be using coping to a greater extent or manner - as a possible protective factor - could be said to broaden the clinical perspective on this group. This group, already part of a group vulnerable of developing anxiety disorders according to DeLijster et al. (2017), could thus possibly be helped in preventive care by assessing and working with the various beliefs, managements and perceptions of anxiety symptoms, and addressing coping strategies in particular.

Since coping is a multidimensional process addressing different demands at different times, and since the literature does not uniformly point towards universal coping solutions working for everyone, this work could hardly be described as straightforward. But as Vishwanantha et al. (2015) put forth, assessment of the adaptability of a given coping strategy would be key. Work with strategies relating to Panic Self Efficacy, which was suggested by Sandin (2015) to be an important cognitive factor at play in panic attacks, akin to Catastrophic misinterpretation and AS, could be shown to be especially impactful in this regard. Especially, since the emergence of uncued panic experience has been described as a normative influence on anxiety trajectories in late adolescence (Weems, 2008). Active coping (problem or appraisal focused) has also been shown to be negatively related to anxiety levels and positively to coping efficacy (Thorne, 2013).

These findings do not mirror those of Sigmond et al. (2004) who found high AS to be related to more maladaptive coping behaviours which included avoidance strategies. Possible explanations for this is the sample and measurement difference, different coping scales were used and the sample of Sigmond et al. (2004) consisted of only women and no adolescents. Of note is the fact that the strategy most preferred (even though not significantly so), by both those at the high and low ends of the current sample were avoiding problems, a strategy which were described as maladaptive by Sigmond et al. (2004). Avoidance in itself however might
not be universally maladaptive, as suggested by Vishwanantha et al., who write that emotion and appraisal focused coping strategies might help the individual achieve an important sense of mastery if the demands are internally felt, (Viswanantha et al., 2008). This study however could in no way conclusive way be said to suggest that those experiencing the more salient internal demands arguably posed by elevated AS would be more likely to employ avoidance focused strategies.

A result that should be emphasized is the albeit weak but significant negative correlation of age and AS. The older the participant, the more likely they were to score highly on AS. A developmental perspective could be applied here. According to Weems model, a normative influence on anxiety trajectories for adolescents is the increasing salience of social fears in adolescence (Weems, 2008). In light of this, it would be reasonable to speculate if the social fears of the older participants might be perceived as less salient, possibly because of having had longer exposure to the social setting of the school and its various stressors. Furthermore, it would have been interesting to see if anxiety trajectories within the current sample would have mirrored that of Weems or been more in line with Allan et al. (2014). The former, as mentioned found four classes with different developmental anxiety trajectories, whereas the latter only found three, failing to find the class with an increasing trajectory of childhood anxiety, (Allan, Capron & Lejuez 2014). Speculatively speaking, if the anxiety trajectories of the current sample would have been in line with the latter - that might account for the finding of a negative correlation between age and AS.

In conclusion, a summary of the results of this study were that: 1) Extent of coping and AS could not be shown to correlate significantly, 2) No coping strategy could be suggested to be related to high or low levels of AS; and 3) Age and Coping were shown to have a significant and negative albeit weak correlation.

Discussion of the methods
Within this sample a large gender bias was observed. In light of the demographics within studies used by this study, this gender distribution is unheard of. In their literary review of sex differences within anxiety disorders, Altemus et al. (2014) conclude that women had a higher prevalence of disorders. This might have had an impact upon the result. The cause for the large majority of females in this sample could be explained by a possible selection bias in that a substantial part of the classes visited by the researcher were psychology classes, which is a field wherein women are in the majority.

Furthermore it is of value to reiterate the issue of the low internal consistency of some of the coping scales within the coping measure used by this study. For instance, a negative Cronbach’s alpha score were noted for the coping scale of Relaxing, which means that assumptions of testing internal consistency has been violated. Investigating why, it was found that item 17, which measured the coping behaviour “Ride around in the car”, had a much lower mean score in comparison to other items within the subscale, which would account for the low internal consistency score. The low score on item 17 could be explained by the fact that a large portion of the sample were unable to use the measured coping behaviour of riding around in one’s car since the legal driving age in Sweden is 18 and the mean age of the sample were 17.74.
Limitations and strengths of the study
A limitation of the study is the internal consistency of the coping subscales within this sample. Some of the coping scales had unacceptably weak internal consistency which brings with it implications for the validity and the interpretability of the result. The internal consistency of the Total Coping scale can at best also be described as poor which greatly restricts the reliability. This study also has a limit in that it was restricted to older adolescents. Since the average age of onset of several anxiety disorders were below the lower threshold of required age of participation in this study, it remains to explore what other mediating factors such as coping and AS could be at play for this group which is also at an increased risk. A noteworthy strength of the study would be the internal consistency of the Total scale and the subscales of CASI-R which could be described as ranging from acceptable to excellent, as well as the large sample size which respectively adds to the reliability and validity of the result. Additionally, a strength of the study can be said to be that it was not translated to the native language of the participants in order to avoid jeopardizing reliability by forgoing standardization.

Implications
The implications of the present study include a broader understanding of how similarly youths with high and low levels of AS deal with demanding situations in life. This needs to be investigated further however and established using other coping measures and/or other populations. This study provides insight into how preventive work with anxiety disorders could be conceptualized with regards to coping.

Suggestions for future research
Given what was shown by Thorne (2013) in regards to the mediating effects of coping efficacy on the relation between coping and anxiety levels, future research on the relation between AS and Coping might want to test a model similar to Thrones but with AS as a mediating factor as well, akin to that of coping efficacy. The relation between coping efficacy and AS in themselves would also be of value to explore, perhaps in the same aforementioned model.

Summary
This study investigated the link between adolescent coping styles and varying levels of Anxiety Sensitivity. Unlike previous research, links between heightened levels of AS and maladaptive coping styles could not be found and neither could reliable relations between other coping styles and high or low AS levels. A small correlation between AS and age were found which could be explained by a developmental perspective on anxiety among youths.
References


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