Coping, perceived stress, personality styles, and psychopathology among European and Asian children and adolescents

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Dedication

To my mother,

Family,

And all my teachers

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ABSTRACT

The aim of the dissertational thesis was to investigate the moderating and mediating effects of individual factors on psychopathology in children and adolescents. The study hypothesized that age, gender, coping strategies and personality styles affect the course of adjustment to stress. Also to examine the age- and gender-dependent associations of interpersonal and academic stressors, personality traits, coping styles (problem-focused, emotion-focused and maladaptive coping) with psychological problems in European and Asian children and adolescents. An adapted version of general conceptual model for etiology of psychopathology in children and adolescent (Grant et al., 2003) and research conducted by Hampel et al. (2005) were used for theoretical background. Assessment tools were German and English versions of the German Coping Questionnaire for children and adolescents (SVF-KJ; Hampel & Peterman, 2001), a personality questionnaire (FFFK-S; Painsi, 2004), and a screening inventory of adjustment problems, (Reynolds´ Adolescent Adjustment Screening Inventory, RAASI, from Reynolds, 2001). The relations were examined among N=312 male and female students (age range 11-16 yrs). It showed that the onset of psychopathology can be traced at an early age and possibly controllable in children. The level of coping strategy rumination was significantly high for females. The main effect of nationality variable showed that Asian children and adolescent have significantly higher Mean score values for maladaptive coping strategies as compared to European group (Distraction, Minimization, and Resignation). Rumination found higher in European group. For European males, the level of Social support found significant as compare to Asian males. Gender*nationality interaction revealed significant main effects for social stress in Asian males and academic stress in Asian females. Asian females grade 6/7 and grade 8/9 reported significantly higher academic stress as compared to males of the respective grades. For German males and females, the difference was not significant for both grades levels. Pair wise comparisons showed that male students reported more Aggressive behavior, Anger control problems, and Positive self. Nationality differences showed that Asian males and females scored significantly higher for the externalisation subscale, Aggressive behavior; on the other hand,

European group reported more Negative self (subscale internalisation), as compared to Asians. European males and females reported significantly high emotional distress as compared to Asian males and females. Females reported significantly higher Conscientiousness as compared to males. European females and Asian females reported more Emotional stability as compared to European and Asian males. Grade 8/9 European males reported significantly higher Conscientiousness as compared to Asian group. Asian females' grade 6/7 reported more Extraversion, as compared to European females. European males' grade 6/7 reported significantly higher Social compatibility as compared to grade 8/9 males. Although Openness was found significant for both comparison groups but pair wise comparison revealed European males grade 6/7 and 8/9 reported significantly higher Openness as compared to Asian males. Asian females' grade 6/7 reported significantly higher Openness as compared to both grades and nationalities. The significant IV personality styles Big Five Social compatibility β=-.-.13 showed that personality styles moderate or reduce the outcome of internalization due to Social stress across both ethnic groups. The finding that negative coping was positively associated with stress, anxiety and psychopathology confirmed hypothesis and was consistent with the majority of previous research (Holahan et al., 2005; Penland et al., 2000; Wijndaele et al., 2007). The Asian male children grade 6/7 showed to have more psychopathology significantly moderated by social compatibility as this personality trait found to have negative correlation with internalisation and externalisation. Negative self significantly predicted by social stress and personality traits (social compatibility and emotional stability) negative coping styles, and nationality. Social stress with a significant main effect t (309) = 3.89, p<.001 and negative coping styles t (308) =2.25 p<.02 predicts internalisation in both ethnic groups. For the IV Nationality a significant negative standardized beta β=-.49 showed that increase in nationality difference were negatively correalted with internalisation. The significant IV personality styles Big Five Social compatibility β=-.-.13 and Emotional stability with β=-.12 showed that personality styles moderate or reduce the outcome of internalisation across both ethnic groups. These findings support the hypothesis Social stress and negative coping contribute to the outcome of psychopathology (internalisation) in Children and adolescents, the personality styles mediate and coping strategies moderate and mediate the outcome of psychopathology

in both groups. Maladaptive coping strategies (negatively correlated) with personality traits and ethnicity of the group revealed that Psychopathology outcome was moderated because of nationality differences and personality traits. Academic stress and social stress predict externalisation in children and adolescents. Social compatibility and problem-focused coping showed significant moderating and mediating effects of personality and problem-focused coping across both ethnic groups. The findings of this study indicate that the impact of stressful life events on delinquent behavior mediated by personal and social coping resources. Escalating stressful life events were positively associated with psychopathology. The experience of negative life events appears to be the contributor to low personal resources. The low levels of personal resources (personality styles, environment, culture, parental support etc) are powerful contributors to the low levels of coping skills that, in turn, predict higher levels of psychopathology among children and adolescents.

1. Introduction

During childhood and adolescence, critical pathological behaviors emerge affecting future adjustment in adulthood. Stress and psychopathology in children and adolescents found to be significantly related cross-culturally (Compas, Connor-Smith, Saltzman, Harding & Wadsworth, 2001). The way children and adolescents cope with daily hassles varied across the world. It depends the way they interact and learn from their culture and environment.

The two primary settings in which children live in middle childhood are the home and the school. Attending school provides the environment within which children's mental, social, and emotional development either enhanced through challenge and accomplishment or negatively influenced through challenge, failure, and stress.

Grant et al. (2003) defined stress as environmental events or chronic conditions that objectively threaten the physical and psychological health or well-being of individuals of a particular age in a particular society.

Stress is often described in terms of its psychological effects on development. Research has demonstrated the relationship between experiences of stress in childhood with aggravated susceptibility to stress and cognitive deficiency (Lupien et al, 2009) and mental health challenges in adulthood (Teicher et al., 2003).

Adolescent and children are faced with complex challenges in our rapidly changing world. Most of the challenges are expected but make this stage of development unique. These developmental challenges encompass biological, physical, social, and emotional changes. In light of this host of changes, young girls and boys will experience stress throughout these developmental era without prior knowledge they have to rely upon their instincts to cope with such challenges.

Relationships with peers and parents undergo change as the children and adolescents searches to develop their own identity. Other developmental tasks faced by children and adolescent include the completion of academic requirements, planning for an occupation and the development of a set of personal values (McCubbin et al., 1985). Because of these changes and tasks, children and adolescents faces increased

demands and stress, and must learn to cope with a variety of increasingly complex situations. It is a known fact that stress cannot be avoided and is necessary for survival. Managing stress is dependent on personal resources and coping strategies. In particular, protective factors can operate as a buffer to the negative effects of stress. Effective coping skills and coping resources such as social support can mitigate potentially harmful effects of stress; however, when coping strategies and resources are inadequate, stressful situations may produce negative physical, cognitive, or behavioral outcomes and can lead to the onset of a host of psychological and somatic problems (Fields & Prinz, 1997).

Not just the experiencing of excess stress that is harmful but the failure to cope creates the negative impact too (Compas, Orosan & Grant, 1993). For this reason, there is growing recognition among researchers that successful adaptation may be more influenced by the individual is coping than by the individual's stress (Seiffge-Krenke, 1993). Learning to "cope" is a central developmental task for all age groups that becomes increasingly important in adolescence with the increased choices. The best example could be decrease in parental influence and increase in peer pressure. As the world of the children and adolescent broadens, additional stress experiences both inside and outside of school and both effective coping strategies and coping resources are necessary to promote successful adaptation during this developmental period.

Coping strategies in children and adolescents found to be of strong predictive value for psychopathology (Colomba, Santiago & Rosello, 1999). Individuals are not equivalent in vulnerability to stress though stress play a vital role in the development of psychopathology, the reason could be the interplay between personalities and adapted coping strategies (Connor-Smith & Compas, 2002). Effects of daily stressors experienced by children and adolescents lead to maladaptive adjustment (Compas et al., 2001). Adolescents and children tend to use strategies that are outwardly aggressive and psychologically undifferentiated indicating lower levels of impulse control and self-awareness (Diehl, Coyle & Labouvie-Vief, 1996). On the other hand, internalising strategies such as rumination are prominent as well (Hampel & Peterman, 2005a). The type of coping response used has been associated with

adjustment and findings suggest that problem-focused coping is associated with positive adjustment and fewer symptoms of distress (Billings, & Moos, 1981; Compass, Malcarne & Fondacaro, 1988; DeMaio-Estieves, 1990; Ebata & Moos, 1991; Fields & Prinz, 1997; Prinz, Shermis, & Webb, 1999; Puskar, Hoover & Miewald, 1992). Emotion-focused coping has been associated with poorer adjustment, more distress, and more behavior problems (Allen, 2003; Compass, Malcarne, & Fondacaro, 1988; Curry, Miller, Waugh, & Anderson, 1992; Ebata & Moos, 1991; Fields & Prinz, 1997; Hoffman, Levy-Shiff, Sohlberg & Zarizki, 1992; Holahan & Moos, 1985; Recklitis & Noam, 1999; Windle & Windle, 1996). Now there comes the question that what are the important factors for the development of psychopathology due to stress.

1.1. Important factors in the development of psychopathology

According to Steinhausen and Winkler-Metzke (2001), numerous factors contribute effectively for the development of psychopathology. For children and adolescents, most important is vulnerability factor. It is known as long standing condition of life that promotes maladaptation (Steinhausen & Winkler-Metzke, 2001).

Personality variables and dysfunctional styles of regulating emotions are core features of risky problem behaviors during adolescence (Connor-Smith & Compas, 2002). Early stress can also predict significant adaptation in social and emotional functioning and increased susceptibility to emotional and behavioral disorders (Veenema, 2009).

The ability to cope with stress is influenced by personality, and at the same time, personality is shaped by stress. One of the oldest psychological arguments exists in the domain of personality development research; the **"nature versus nurture"** question is now evolving into an understanding and acknowledgement of **"nature and nurture"** (Caspi & Shiner, 2006). There is evidence to show the influence of the environment on genes, and vice versa (Dodge, Coie & Lynam, 2006). Influenced by genetics, traits are the first aspects of personality to emerge and these develop and strengthen with increased cognitive, emotional, behavioral, communication and motor skills (Shiner, 2009). The interactions between children and

their environments clearly influence the development of their personalities. The personality shapes how they respond to their environments, and it accumulates the choice of coping styles.

The knowledge that processes such as coping and attachment styles, and traits such as aggression, empathy, and anxiety are features of children's developing personalities highlights the importance of exploring children's abilities to cope with stress.

Steinhausen and Winkler-Metzke (2001) investigated a sample of 1,110 (10 to 17 year-old) subjects of a school-based quota sample in Zurich, Switzerland. The Youth Self Report (YSR) was used as an indicator of emotional and behavioral abnormalities. Further questionnaires were concerned with life events, coping strategies, parental child-rearing behaviors, the school environment, and the social network. General risk factors for both genders included avoidance behavior, perceived rejection by the parents, competitive behavior among classmates, and controlling behavior of the teachers. General compensatory factors included self-esteem and acceptance by the parents. Moreover, performance stress served as a risk factor for internalising disorders in both genders; for externalising disorders, it was a risk factor in girls and a vulnerability factor in boys.

Co-variation among diverse behaviors and psychopathology such as educational underachievement, delinquency, substance abuse, sexual behavior etc. and adapted coping strategies serve as a generalized risk factor for maladaptive behavior later on in adolescence. Kraaij et al. (2003) reported significant relationship between negative life events and emotional problems in a sample of 1310 adolescents. Active coping and peer acceptance were protective factors for internalising disorders and peer acceptance a compensatory factor for externalising disorders. Thus in this context cognitive coping strategies plays a very important role. The use of self-blame, catastrophising, positive refocusing, and positive reappraisal appeared to relate to depressive symptoms (c f. Kraaij et al., 2003). Conceptual models of coping and involuntary stress response measurement revealed significant correlations in adolescents and their parent's reports of internalisation and externalisation symptoms.

Although these research findings were very impressive but still they lack a specific and concrete form and flow in other words need of a specific model to explain and test the relationship of etiological, moderating, and mediating factors for psychopathology was in question.

1.2. Aim and rationale of the present study:

The ways in which humans are coping with their stress has been the focus of research for the past three decades but as compared to adult research, the research on stress and coping during childhood and adolescence on cross cultural level is still at early stage. A lot of early conceptualization of coping during childhood and adolescence found limited as they relied on extant models of adult coping instead of developmental theory. In addition, adult coping definitions has been in use all the time for children and adolescent (Compas, Conner-Smith, Saltzman, Thomsen &Wadsworth, 1999).

Further study on effective coping skills and the availability of emotional and social support based upon such factors as gender, age and ethnicity is demand of time. It would be inappropriate to assume a one-size- fits-all mentality in dealing with stress. Whether the type of coping response and the personality styles of the individual differ in dealing with school and non-school related stressors also needs to test. This is important since both areas represent themselves in stressors identified by children and adolescents and both areas play a major role in the life of children and adolescent.

2. Theoretical background

This section is a review of theory and research related to stress, coping, personality styles, and psychopathology in children and adolescent. First, stress will be discussed, followed by a review of coping, personality styles. In addition, interaction of these three main variables with gender, age, and ethnic differences in the context of psychopathology will be discussed.

2.1. Stress

2.2.1. Defining stress

The study of stress has grown over the past 60 years from research into how the body reacts to stress to a multi-faceted field of study. Lazarus and Folkman (1984) defined stress a condition or feeling experiences when a person perceives that demands exceed the personal and social resources the individual is able to mobilize.

Stress has never been an easy concept to define or measure (Webster-Stratton, 1990) and well illustrated by an unidentified critic who once captured the complex nature of the word by declaring: stress in addition to being it, also the cause of itself and the result of itself (Rosch, 1998).

Stressors can be grouped conceptually along several dimensions for example major life events have long been considered predictive of adverse adjustment in children and adolescents such as trauma, parental loss, divorce and abuse etc. On the other hand, researchers have investigated the importance of minor life events or daily hassles (i.e., school performance, peer group, and interpersonal/family/social relations) for the prediction of distress, and found that an accumulation of small negative events was more predictive of problems than the occurrence of major life events (Fields & Prinz, 1997).

Almost five decades later the definition of “stressors“ had evolved to, in some cases, describe a set of domain-specific identified challenges: “environmental events or chronic conditions that objectively threaten the physical and/or psychological health or

well-being of individuals of a particular age in a particular society‟ (Grant et al., 2003). In fact, just how large stress and the associated field of coping research are, can be understood in the suggestion that they may be the most extensively investigated domains in psychology (Frydenberg, 2008).

From a mental health perspective the definition by Lazarus and Folkman (1984), psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being‟ has been described as the theoretical foundation for investigations on stress in the young.

From a biological perspective, stress has been defined as real or perceived challenges to an organism's ability to meet its real or perceived needs‟ (Greenberg, Carr & Summers, 2002). In the words of Grant et al. (2003)"Notwithstanding this challenge in arriving at a consensus of description, stress has been identified as one of the most significant issues associated with mental wellbeing" (Grant et al., 2003).

More recently, however, there have been attempts to define the meaning of stress from children's perspectives, including "caught in life's challenges‟ (Kostenius & Ohrling, 2008).

The developmental perspective summarized that (Printz, Shermis, and Webb, 1999); vulnerability to behavioral and psychological maladjustment significantly increases when a person experiences stressful events during childhood. In addition, an accumulation of unresolved stressful experiences increases the child's susceptibility to maladjustment, especially undesirable stressors associated with major life events (Printz, et al., 1999). Unhealthy attempts at adaptation inconsistent with coping resources and the needs of the situation are likely to promote the emergence of maladaptive coping patterns to manage stressors. To promote healthy adjustment, the tension and pressure that the stressor (either as a single event or as multiple events) exerts on the child must be managed. Learning to cope with emotions related to stress, especially negative emotions, in adaptive and constructive ways is a central process in producing well-adjusted children (Zeman, Shipman, & Suveg, 2002).

According to Zimmer-Gembeck and Skinner (2008), stress is a cause of human distress and dysfunction. One should distinguish eustress and distress. Eustress is the good kind of stress because it is associated with positive feelings and healthy body states, and evoked by positive emotions and/or events. Distress is the bad kind, associated with negative feelings and disturbed bodily states, and evoked by negative emotions and/or events. Another distinction is among three kinds of stress: harm, threat, and challenge. Harm is negative and refers to psychological damage that already been done (e.g. an irrevocable loss). Threat is also negative: the anticipation of harm that has not yet taken place but may produce imminent challenge results from difficult demands. As a result, one feels confident about overcoming by effectively mobilizing and deploying his / her coping resources. If a person does not manage to feel confident, challenge is negative. However, if one does feel confident, challenge can be a positive kind of stress (Lazarus, 1993). It depends totally on the nature of stressors.

2.2.2. Stress in children and adolescents

Adolescence is a time characterized by rapid physiological, social, and cognitive changes and faced by numerous demands (e.g., family, school, peer group). As mentioned by de Anda et al. (2000) the impact of daily stressors in the lives of children and adolescents identified as particularly potent. Pressures and expectations within the school environment are the most frequent stressors reported by adolescents (Compas, Davis, & Forsythe, 1985).

Specific stressors have included testing, grades, performance expectations and future goals, however, for many adolescents factors like economic hardship, family conflicts and peer relationships also appear to be multiple and cumulative as environmental stressors. To conclude daily hassles such as interpersonal (family), and social stressors are major contributors of child, and adolescent demands (de Anda et al., 2000). It is the main objective of the present study to find out the specific relationship of daily hassles with outcome of psychopathology in children and adolescence. The following section

explains previous research how daily stressors contribute and predict the symptoms of psychopathology in children and adolescence.

2.2.3 Psychopathology and stress

Stressful life experiences constitute a potential threat to the well-being and healthy development of children and adolescents. The number of young people who faces stressful life experiences like traumatic events chronic adversity and strain plus the accumulation of stressful life events and daily hassles increased largely over the years (Haggerty, Sherrod, Garmezy, & Rutter, 1994; Grant et al., 2003). In childhood and adolescence longitudinal studies, a strong relation has been revealed between daily hassles and symptoms of psychopathology (Grant et al., 2004). While stress associated with major life events generally acknowledged and accepted, the understanding of the effects of daily hassles and indeed, what exactly classified as a daily hassle is less established and therefore less supported. (Grant et al, 2003)

However, in seeking to develop understandings of contextual stress within a particular sphere of influence, various studies have shown that those experiences that may be construed as daily hassles are positively associated, independently of major life events, with mental health disorders (Barrett & Heubeck, 2000).

Acknowledgement of the impact on health of daily stressors suggests that studies on stress and coping need to be conducted, not only with those with recognized challenges, but with healthy cohorts as well (Sorensen, 1991). While children appear capable of handling adversity, numerous stressors may result in decreased ability to cope, complicating their future adjustment and development. Continued exploration of specific environmental or circumstantial stressors is important but should be complemented by universal studies of daily stressors

Achenbach (1997) postulated two major groups of psychopathology externalisation and internalisation. These two patterns found to be co-occurring in adolescence. Stressors found to predict both internalising and externalising symptoms, though the association was stronger with internalising than externalising problems in adolescence

(Compas, Malcarne, & Fondacaro, 1988; Lau, 2002). In adolescent females externalising behaviors were predicted by daily life stressors as compared to males (Hampel & Peterman, 2005b).

Furthermore, co-morbidity of internalisation and externalisation is typical in psychopathology (Seiffge-Krenke, 2000). In multivariate studies of adolescence, depression and anxiety are found to be linked to stress. On the other hand, stress is linked to various externalising problems such as delinquency and aggression.

In this context Smith (2004) postulated and tested three models of stress and psychopathology relationship, according to Smith (2004) the three models explain the relation between stress and psychopathology were **: *stress exposure, stress generation, and reciprocal***.

According to the *stress exposure model*, individuals who have experienced stressors will have more symptoms than those who have not Prospective studies showing that stress temporally precedes increases in symptoms, these finding have provided support for this model (e.g., Compas et al. 1989; Hilsman & Garber, 1995; Rudolph et al., 2001; Siegel & Brown, 1988). For example, Hilsman and Garber (1995) measured depressive symptoms one week before, the morning after, and five days after children received a lower grade than they would have liked, and found that, controlling for symptoms one week prior, the stressor predicted increases in depressive symptoms five days later. Other studies with children similarly have shown that controlling for initial levels of depression, stress significantly predicts increases in depressive symptoms six (Rudolph et al., 2001) and nine months later (Compas et al., 1989).

With regard to externalising symptoms, Mathijssen, Koot, and Verhulst (1999) found in a sample of Dutch children and adolescents referred to outpatient mental health clinics that those whose life stressors had increased during the year between assessments had increases in both externalising and total problem scores on the Child Behavior Checklist, although not in internalising symptoms. Aguilar, Sroufe, Egeland, and Carlson (2000) showed that individuals who had onsets of externalising behavior in childhood that continued across adolescence were more likely to have had life stress

earlier in their childhood. Thus, some support for the stress exposure model has been found for both internalising and externalising problems. (Smith, 2004)

The stress generation model (Hammen, 1991, 1992) posits that individuals with psychopathology, particularly depression, tend to generate dependent stressors, the stressors in their lives that occur as a function of their own behavior. For example, controlling for baseline levels of depression, dependent interpersonal stressors predicted increased levels of depressive symptoms at follow-up (Davila, Hammen, Burge, Paley, & Daley, 1995). In a short-term longitudinal study of college freshman, self-reports of depressive symptoms were associated with stressors two weeks later (Potthoff, Holahan, & Joiner, 1995; Smith, 2004) The same way Leadbeater et al. (1999) examined whether externalising and internalising symptoms in adolescents predicted stressful life events one year later. In females, externalising behaviors predicted subsequent stressful life events; no effects were found for males or with internalising symptoms, however. Aseltine et al. (2000) found for both males and females, involvement in delinquent activities predicted higher levels of life stress and family conflict. These studies (Aseltine et al., 2000; Leadbeater et al., 1999; Potthoff et al., 1995), however, did not control for earlier levels of stress, making it difficult to determine whether symptoms actually predicted changes in levels of stress (Kim et al. 2003; Smith, 2004)

The third perspective discussed by Smith, (2004) regarding the relation between stress and symptoms is the *reciprocal model*. Symptoms at one time are hypothesized to produce stressors later, and similarly, stressors at one time are presumed to lead to symptoms later. Studies testing this model treat both stress and symptoms as predictor and outcome measures across multiple periods. This allows one to control for earlier levels of stress or symptoms when predicting outcomes and to examine cross-sectional and longitudinal relations among these variables.

Cohen et al., (1987) reported reciprocal relations between life events and psychological outcomes. Controlling for symptom levels five months earlier, they found that negative life events positively predicted anxiety and depression in young adolescents. The reverse relation also was found; that is, symptoms predicted change in level of stress. The direction of effects varied between anxiety and depression

however, with high levels of depression predicting increases in stress whereas high levels of anxiety predicted decreases. Furthermore, reciprocal relationships are present throughout multiple measurement periods in adolescence. Smith (2004) provided support of a reciprocal model of the relation between peer stress and adolescent internalising and externalising symptoms during early adolescence. The study focusing on a specific type of stress that is particularly relevant for adolescents, peer stress, and the use of a high-risk sample of individuals who are particularly likely to have vulnerabilities with regard to peer stress and symptoms. Peer stress found to be the most frequently occurring stressor during early and middle adolescence (Isakson & Jarvis, 1998).

Cohen et al., (1987) suggested that anxiety might prevent youth from engaging in risk-taking behaviors and thus contribute to lower levels of stress. Thus, the study by Cohen et al. appears to support the reciprocal model, although the effect differed for anxious versus or depressive symptoms (Smith, 2004).

Schmeelk-Cone and Zimmerman (2002) studied trajectories of stress over time in relation to psychosocial outcomes and behaviors among adolescents. A sample of African American adolescents was assessed longitudinally on perceived stress, psychological well-being, support, antisocial behaviors, and academic success. Patterns of stress over 4 time points were developed using a cluster-analytic approach. Differences among the trajectory clusters were examined using psychosocial outcomes and behaviors. Adolescents with chronic levels of stress reported more anxiety and depression, engaged in antisocial behaviors, and reported less active coping than youth in other trajectories. Adolescents with low levels of stress over time reported fewer psychological problems, received social support, and were more likely to graduate from high school than those with higher stress levels over time. The researchers also found that an increase in stress coincided with a lack of support and more psychological problems over time (Schmeelk-Cone & Zimmerman, 2002).

Moreover, interpersonal stressors found to be associated with both internalising (Compas, 1986; Davila et al., 1995) and externalising symptoms (Barrett & Heubeck, 2000). For example, Rudolph et al. (2000) measured both interpersonal and non-interpersonal stressors in a sample of outpatient clinic youth and found that

interpersonal stressors were significantly related to depressive and marginally related to externalising symptoms; non-interpersonal stressors were significantly related to externalising symptoms. Further, children with co-morbid depressive and externalising symptoms had a greater number of interpersonal stressors than did children who had high symptom levels in only one problem area. Thus, interpersonal stressors may be particularly linked with depression, but externalising symptoms might exacerbate that relation further.

Compas et al. (1986) also have shown that interpersonal stressors (i.e., problems with family and parents) were positively related to internalising symptoms in adolescents, and social stressors such as "having problems with roommates," or "not having as many friends as you would like" were positively correlated with depressed and anxious symptoms in college students (Connor- Smith & Compas, 2002).

Kim et al. (2003) tested separate reciprocal models for stress and internalising and externalising symptoms across adolescence. The results for internalising and externalising symptoms were similar in that stress predicted increased levels of symptoms at the following time-point while symptoms predicted increased levels of stress. The aim of the present study is although not to found a specific model for stress and symptoms but to give a clear picture of how specific stressors predict psychopathology in the context of general conceptual model given by Grant et al. (2003).

2.2.4. Age differences in perceived stress

Govaerts and Gregiore (2004) reported age as an important variable in studies examining the way a population of children and adolescents evaluate stressors and the way in which they face these (Altshuler & Ruble, 1989; Caspi et al, 1987). Developmental changes rooting from cognitive maturation are one of the factors that explain why a person´s perception of and ability to cope with stressful events generally sharpen with age. Moreover, as explained by Boekaerts (1996), by becoming increasingly familiar with different types of situations, children improve their ability to evaluate the events they are facing. Older adolescents also have a more extensive

repertory of strategies and greater skill in picturing the problem from several different perspectives (Seiffge-Krenke, 2000).

In terms of age, Seiffge-Krenke (1995) found only a few differences but did find that early adolescents perceived greater stress. Stark, Spirito, Williams, and Guevremont, (1989) found that males and females in the 16-17 year old age group reported different problems than those in the 14-15 year old age group. The problems reported by the younger group were more focused on parents or school while the problems reported by the older students were more diverse showing an increase in future issues.

In a longitudinal study of stress and coping in high school students, that measured subjects in both freshman and senior years, Gorer, Thomas and Shoffner, (1992) found that for both males and females, stress increased over time.

2.2.5. Gender differences in perceived stress

Gender differences have been found with regard to specific types of peer stress, with girls reporting more stressful events in their close friendships whereas boys reporting more stressful events in their larger peer group (Rudolph, 2002). Interestingly, although girls reported fewer peer group stressors, they were more likely to experience anxious and depressive symptoms in response to such peer stress than were boys. Girls also were more likely to experience symptoms in response to stress within close friendships (Rudolph, 2002).

Similarly, although both girls and boys who had difficulties in their close friendships and with peers had more symptoms of social anxiety, the relation was stronger for girls than boys (LaGreca & Lopez, 1998). In contrast, interpersonal conflict stress has been found to correlate significantly with depressive symptoms for boys, but not for girls (Rudolph & Hammen, 1991). Govaerts and Gregoire (2004) studied adolescents' cognitive appraisal processes and their relationships with academic stress. A sample of adolescents (N = 100, mean age = 16.9 years) reported 145 academic stressful situations. Sex and age differences were analyzed. Girls granted greater resources for coping with it. Student's age was negatively correlated

with the perception that the stressful situation will be resolved on its own. Five appraisal patterns were identified using cluster analysis. Subsequent analysis showed that the five groups differ in their perceived degree of stress. One group was labelled at-risk appraisal group, demonstrating a high level of perceived stress, and two groups showed a favorable appraisal pattern associated with low level of perceived stress.

Rudolph (2002) examined further interpersonal stress theory and research and found that overall it provided support to a complex model of the interpersonal mechanism underlying gender differences in emotional distress during adolescence. Across a variety of research approaches, girls have been found to experience higher levels of interpersonal stress than boys, particularly in their friendships and particularly during adolescence. When confronted with interpersonal stress in the family and peer contexts, girls tend to show more negative emotional responses in the form of anxiety and depression than boys do.

According to Rudolph (2002), early adolescent girls have a greater psychological and emotional investment in interpersonal success, as reflected in high levels of worry and distress associated with peer relationships and friendships. Moreover, girls are more likely to blame themselves for relationship problems and are more concerned about negative evaluation by peers than are boys. This type of interpersonal investment and concern about relationships moderates the emotional impact of interpersonal stress, and girls with a high need for approval by peers show a particular vulnerability to self-esteem deficits and anxiety.

Moreover interpersonal sensitivity, exposure to friendship stress, and reactivity to interpersonal stress contribute to gender differences in emotional distress. In turn, emotional distress is associated with a greater likelihood of generating stressful interpersonal circumstances, and adolescent girls are particularly likely to generate stress within their relationships. Thus, once distressed, adolescent girls may continue to create even more stressful environments, which may explain why the gender difference in depression escalates from early to late adolescence. The study demonstrated that girls' relational orientation style promotes more adaptive behavior in

an interpersonal context, suggesting that there are complicated costs and benefits to this style.

Gender also plays a role in the association between stress and both psychological and behavioral outcomes. In a sample of urban adolescents, life event stress was related to behavior problems for boys without any moderation by locus of control, family environment, social support, or coping style (Weist et al., 1995). For girls, Weist et al. found problem-focused coping moderated the effect of stress on behavior problems, where the relation between stress and behavior problems was greater with less coping. In a highly stressed sample of urban children, however, no gender differences were found in the relations of aggressive behavior to parent characteristics, child IQ, school problems, and peer relationships (Sutton et al., 1999).

Compas et al. (1986) also found the relation between negative stressful life events and internalising symptoms to be significantly stronger for boys than for girls. In a sample of German adolescents, major stressful life events were related to depressive symptoms in boys only when they were 14 years old and to girls only when they were 17 (Seiffge-Krenke & Stemmler, 2002). Girls reported more negative events than boys did and in some cases, they consider themselves more at risk (Compas et al., 1986; Swearingen & Cohen, 1985).

The consistent pattern of gender differences in the literature may reflect differential representation and understanding of stressful situations. In this respect, Seiffge-Krenke (1990) has reported gender related differences in the appraisal of the same normative demands. Girls evaluate the same event for example receiving bad grades in class as four times more threatening than boys of the same age. Moreover, girls evaluate the same problem as more complex and of an internal origin than boys do. They also continue to think about an event more after it is over than boys in the same situation are, whereas stress with peers at age 17 related significantly to girl's depressive symptoms and marginally related to boys' symptoms. Studies investigating gender differences in stress perception suggested that female adolescents perceive identical stressors up to four times as more stressful than their male age mates (Frydenberg, 1997; Seiffge-Krenke et al., 2009). It came probably with the sensitive nature of females and the way they learn from significant others especially from mothers.

Theoretical background

With respect to externalising symptoms, prior research has shown that externalising symptoms related to stress for boys, but not girls (Santa Lucia et al, 2000). Thus, the strength of the relation between social stress and symptoms may differ for girls and boys (Smith, 2004). Research that relies on counts of stressful life events to assess stress exposure has been able to explain only a small portion of the gender gap in either depressive symptoms or delinquent behavior (Dornbusch et al., 1991; Gore et al., 1992; Van Gundy, 2002).

In contrast, by specifying the nature of stressful life events, Turner et al. (1995) found that observing life events happening to others, as well as personally experiencing recent and chronic stressful events, explained females' higher levels of depressive symptoms. It is not simply a matter of who has more stress, but who experiences what kind of stress (Compas & Wagner, 1991; De Coster, 2005; Kessler & McLeod, 1984). Research demonstrates that adolescent males report more exposure to stressors, like need of personal achievements and physical victimization, and adolescent females report more exposure to stressors, like difficulties in their social networks and relational problems with family and friends (Compas & Wagner 1991; Gore et al. 1992; Liu & Kaplan 1999; Sweeting and West 1994). If males and females are differentially exposed to certain types of stress, it may be that they are differentially vulnerable to these types of stress (Mirowsky & Ross 1989; Rosenfield 1999; Turner & Avison 1989).

The former, stressors, are intrapersonal in nature, having personal relevance regarding an individual's goals or competence (e.g., threats to personal achievement and life goals) or events that happen primarily to the individual (e.g., victimization). The latter, stressors, are interpersonal in nature, involving another person (e.g., difficulties with family or peers) or difficulties that impact another person in the individual's social network (e.g., something bad happens to a family member or friend). Because their perceptions of stress are keyed to their locations in the social structure and socialization experiences, males and females may be attuned to different kinds of stressors (Davis et al., 1999; Rosenfield, 1999). Males might be focused on stressors linked to success etc, and females may be more focused on social stressors (De Coster, 2005; Eagly et al., 2000).

Many studies revealed that males are more responsive to achievement related stress and victimization, whereas females are more responsive to family and peer-related stress (Larson & Asmussen, 1991; Mazerolle, 1998; Turner et al., 1995). Thus, research suggests that it is necessary to examine general stress as well as gendered stress in order to discern possible variations that may contribute to sex differences in well-being (Hoffman & Su, 1997; Thoits, 1995).

Therefore, the present study found the phenomena of perceived stress of eminent value and explored the extent to which the relation between stress and internalising and externalising symptoms differed as a function of gender.

2.2.6. Cross-cultural comparison of perceived stress

The association between socials stressors and symptoms also found significant with culturally diverse samples. Future-related stressors perceived as being more stressful than romantic stressors by all adolescents, irrespective of the region in which they lived. Identity-related stressors were of greater concern to adolescents from South Africa, South America, and the Middle East. Romantic stress was much higher in adolescents from Mid-Europe and Southern Europe compared to adolescents from other regions (Seiffge-Krenke et al., 2010).

In Australian children, Barrett & Heubeck (2000) reported that daily hassles with peers specifically predicted anxiety symptoms, whereas hassles with teachers predicted conduct problems. Among Korean adolescents, hassles with friends and with parents significantly related to both depressive symptoms and antisocial behaviors (Sim, 2000).

Similar results found in a sample of American inner-city adolescents in which stress with family members and peers was significantly associated with depression (Deardorff, Gonzales, & Sandler, 2003). Thus, the social domain is a particularly important context for the experience of negative life events that linked with psychopathology in youth (Smith, 2003). Dornbusch et al. (2000) found that among black adolescents, both males and females reported more stressful events. This finding

was also supported by Weist et al. (1995) found that African-American students reported more negative life events than Caucasian students.

2.3 Coping

As stated by Pianaar (2010) many researchers have explored coping concepts such as children's „stress buffers". These can include individual inherent characteristics and/or environmental qualities that arbitrate the impact of stress (Sorenson, 1991); behavioral self-regulation (Power, 2004); and „emotional self-regulation" or „regulation under stress" which have, particularly where children are concerned, been viewed as synonymous with coping (Skinner & Zimmer-Gembeck, 2007).

2.3.1 Definition of coping

Coping can be defined as cognitive and behavioral efforts to manage specific external and internal demands that are appraised as exceeding the resources of individual (Lazarus & Folkman, 1984).

Coping represents an important aspect of more general processes of self-regulation of emotion, cognition, behavior, physiology, and environment. Coping is a subset of broader self-regulating processes enacted volitionally and intentionally particularly in response to stress (Compas et al., 2001). Coping is the key concept helping us to grasp adaptation and mal-adaptation because it is not only stress causes distress and dysfunction but also how people manage it (Aldwin, 1994).

Coping with stressful life events involves, in general, numerous ways of dealing with the demands associated with these events. Thus, coping in itself, does not represent a homogenous concept as it reflects a diversity of strategies, tactics, responses, cognitions, and behavior that help individual adapt to adversities (Schwarzer & Schwarzer, 1996). Furthermore, similar stress can have varying effects on different people, that is, individuals can respond in diverse ways to stress (Mohamed, 2004).

2.3.2 Conceptual models of coping

Coping is mostly dichotomized: It can be conceptualized as follows.

1) *Problem-focused/Emotion-focused coping model*

This framework is based on Lazarus's (1974) cognitive appraisal model, which states that a person's assessment of a given situation strongly affects the associated stress level. Within the framework the problem-focused coping efforts are aimed at modifying the stressors (direct problem solving), while emotion-focused strategies are aimed at regulating the emotional states that may accompany the stressors (e.g., via crying to release feelings).

2) Primary/secondary control model

The second conceptualization is primary/secondary control model (Rothbaum, Weisz & Snyder, 1982). Primary control coping is aimed at influencing objective conditions or events, described by Rothbaum, Weisz and Snyder (1982) as bringing the environment into the line with one's wishes. Secondary control coping is aimed at maximizing one's goodness of fit with conditions or events as they are, or bringing oneself into line with environmental forces. A third category is relinquished control, defined as the absence of goal-directed activity or coping and includes responses such as giving up (cited after Fields & Prinz, 1997).

3) The approach / avoidance model

Approach, active coping, monitoring, and sensitization represent a disposition to seek out information, exhibit concern, and making plans. On the other hand, avoidance, blunting, passive coping, and repression represent a disposition to avoid information, exhibit little concern, and distract oneself in the face of stressful circumstances (Fields & Prinz, 1997).

As mentioned by Hampel and Petermann (2005a) adaptive and maladaptive coping strategies are confounded in these dichotomized dimensions. Thus coping should be conceptualized by a multidimensional concept. Table 2.1 showed comparison of 3-

domain model by Hampel et al, (2005 b) with 5-domain model by Comaps et al, (2001).

Table 2.1. Showed comparison of Conceptual models of Coping strategies by Hampel et al. (2005b) and Compas et al. (2001)

	Hampel et al, (2005)	Comaps et al, (2001).
Instrument	SVF-KJ German Coping Questionnaire for Children and Adolescents.	RSQ: The response to stress questionnaire
Dimensions. Response to stress	Adaptive coping *Problem-focused coping* directed to modify the stressful encounter or the individual goals. *Emotion-focused coping* Secondary control or avoidant coping strategies are employed to regulate negative emotions b.Maladaptive coping linked with less adjustment negative coping	Voluntary 1.Within conscious awareness and oriented towards regulating one`s cognitive , behavioral emotional or physiological responses to stressor  2.Engagement with or diengagnement from the stressor or one`s reaction to the stressor *Volitional coping* : Goal directed ∗ Primary control coping ∗ Secondary control coping b.Involuntary: 1. Include temperamentally based conditioned reactions that may or may not be within conscious awareness and are not under volitional control i.e. physiological arousal , intrusive thoughts and rumination , and emotional numbing 2.Engagement with or diengagnement from the stressor or one`s reaction to the stressor
Description of Models	Three domains: Problem-focused coping • Situation control • Seeking social support • Positive self instructions Emotion-focussed coping • Distraction • Minimization Maladaptive coping • Resignation • Rumination • Passive avoidance • Aggression	Five domains: Primary control coping • Problem solving • Emotional regulation Secondary control coping • Acceptance • cognitive restructuring Disengagement coping • Cognitive and behavioral avoidance • Denial • Wishful thinking Involuntry engagment Involuntry disengagement

In the present dissertational thesis, a 3-domain-model of coping will be examined to avoid confounding of adaptive and maladaptive coping strategies. Thereby, coping

styles are differentiated in two adaptive coping styles (emotion- and problem-focused coping) and one maladaptive coping style, which are represented by nine coping strategies. Emotion-focused coping comprises of minimization and distraction, problem-focused coping consisted of situation control, positive self-instructions, and social support; maladaptive coping includes passive avoidance, rumination, resignation, and aggression.

2.3.3. Theoretical Background of Coping

Mohamed (2004) divided various theories dealing with coping in to three parts; the psychoanalytic approach, the personality approach, and the coping process approach. While the psychoanalytic approach focuses on defense mechanism, the personality approach focuses on coping styles. These two approaches assume that adaptation to stress is a function of personality. The coping process approach, on the other hand, emphasizes the environmental demands and influences on coping with stress.

2.3.3.1. Psychoanalytic Approach

Mohamed (2004) started with Freud (1966) states that as per Freud anxiety arise from the unresolved conflict between the *id* (i.e., internal demands) and the *superego* (i.e., environmental demands). Anxiety, according to Freud, should be dealt with by the *ego* functioning that works as a mediator between the *id* demands and the environmental demands (i.e., *superego*). The ego functioning is responsible for defense mechanisms that protect the individual from overwhelming anxiety and, consequently, control his/her negative affect. Freud identified a number of *ego* defenses including suppression, denial, projection, and reaction formation, among others. These defense mechanisms were assumed unconscious ways of warding off anxiety that are deeply rooted in the personality. Defense mechanisms used by the *ego* are consistent across different situation. Although this approach enriched the field of coping and stress with materials for developmental and growth oriented studies of adaptation, the related schemas can hardly be operationalized in to usable instruments (Aldwin, 1994).

2.3.3.2. Personality Approach

Within the personality approach coping was looked at as inherently stable personality styles. As postulated by Millon (1982), personality styles characterize the manner in which individuals approach and deal with their everyday life events. The earliest typology in personality trait approach is repression sensitization. Repressors are those who avoid or suppress information, whereas sensitizers are those who seek information. This typology followed by similar typologies including blunting-monitoring and approach-avoidant typologies among others. Concerning their relationships with adjustment, approach-monitoring sensitization style of coping proved to be more effective in enhancing adjustment than avoidant-blunting-repression style (Aldwin, 1999; Roth & Cohen, 1986). In addition, research finding showed that individuals alternate between avoidant and confronting types of coping when faced with highly stressful events (Aldwin, 1999).

Although the use of personality style in assessing coping with stress allow for more complex descriptions of the ways in which individuals behave and cope with life stressors, this approach ignores environmental demands that can affect and shape the individual's behavior (Aldwin, 1994).

2.3.3.3. The Coping Processes

According to Mohamed (2004), the cognitive behavioral perspective considers coping as an outcome of personal preference and as a response to environmental demand; how individual cognitively appraise a situation is a primary determinant of how he/she copes with it. According to Folkman and Lazarus (1984), an event could be appraised as benign, threatening, harmful, and challenging based on the environmental demands associated with it and the individual's beliefs, values, and commitments. If the situation appraised as benign, no coping is required. Threatening and challenging situations call for problem focused coping, whereas harmful events and loss (e.g., cancer, bereavement) evoke *palliative coping* directed at decreasing the negative emotion associated with stressors. Coping, according to this approach, varies within

individuals, depending upon the situational context, and within contexts, depending upon individuals' differences (Aldwin, 1994).

2.3.4. Age effects on coping strategies

Age is a crucial factor for the development and adaptation of coping strategies. The majority of studies on developmental changes have found age-dependent increases in maladaptive emotion-focused coping among children and adolescents, ages 5 to 17 years (Compas et al, 1988; Frydenberg & Lewis, 1993). Some studies on children and adolescents have found decreases in distraction with increasing age (Donaldson et al., 2000). Emotion regulating strategies such as distraction and relaxation were used less frequently in younger children supporting that those distracting and recovering strategies are acquired in middle childhood (Hampel & Petermann, 2005b).

Age effects found significant in stress perception and coping style as well. Improving cognitive abilities and social skills during adolescence accompanied an increase of functional coping (e.g. internal and active coping styles; Eccles et al., 2003, Skinner & Zimmer-Gembeck 2007). Although age and gender effects have been frequently reported (Hampel & Petermann 2005, Skinner & Zimmer-Gembeck 2007) results on developmental changes in problem-focused coping are less consistent. Problem-focused coping strategies were used predominantly in children, ages 10 to 14 (Compas et al., 1988), and strategies such as direct action and support seeking have been found to be preferred by primary school children (Rossman, 1992). Furthermore changes in the development of problem solving not demonstrated from middle childhood to adolescence. It suggested that problem-solving abilities acquired during early childhood (Compas, Orason & Grant, 1993). Studies investigating age-dependent changes in avoidant coping have provided inconclusive results, partly due to different conceptualizations of this coping strategy such as confounding behavioral and cognitive avoidance (Fields & Prinz, 1997). Although research on further maladaptive coping strategies has been scarce, some evidence for significant increases in resignation and self-criticism among 9 to 14-year-old children and adolescents were found (Donaldson et al., 2000), suggesting that early and middle adolescents have not

developed comprehensive abilities to cope effectively with the high amount of stressors (Hampel & Petermann, 2005b).

Fields and Prinz (1997) summarized the literature on developmental changes in self-reported coping across diverse stressful situations and drew the conclusion that the ability of differentiation and situation-specific use of coping strategies increases at first from preschool to primary school age with a peak in the adolescence. On the other hand, several studies failed to show developmental differences in coping strategies due to age, suggesting that there were moderate consistencies of reported coping strategies across diverse stressors in different age groups (Donaldson et al., 2000; Griffith et al., 2000; Roecker et al., 1996; c f. Hampel & Petermann, 2005b).

2.3.5. Gender effects on coping strategies

Numerous studies have provided further evidence that girls tend to cope with stressors by predominantly applying social support (Causey & Dubow, 1992; Donaldson et al., 2000; Frydenberg & Lewis, 1993; Hampel & Petermann, 2005a; Seiffge-Krenke, 1993). Emotion- focused coping, including strategies as relaxation, affective release, or emotional regulation proved to be more employed by girls than boys (Compas et al., 1988; de Anda et al., 2000; Donaldson et al., 2000; Hampel & Petermann, 2005a) but also girls more frequently reported utilization of maladaptive emotional regulating strategies such as emotional ventilation and drug intake. In contrast, female children and adolescents scored lower on distraction as compared to males (Hampel & Petermann, 2005a). Girls employ more frequently maladaptive behavioral and cognitive strategies of coping. Thus, problem-avoidant coping (Seiffge-Krenke & Shulman, 1990) as well as resignation and rumination (Donaldson et al., 2000; Hampel & Petermann, 2005a) were enhanced in girls.

Regarding coping style level, the most consistent findings demonstrated that male adolescents used more withdrawal coping; whereas female adolescents tended to cope more actively with their problems (Compas et al., 2001; Gelhaar et al., 2007).

Kort-Butler (2009) reported gender differences in well-being and differences in stress exposure and vulnerability, the current study examined how coping styles gendered in ways that may contribute to sex differences in depressive symptoms and delinquent behavior. The study disaggregates stress measures to reflect gender differences in the experience of stress, examining whether avoidant, approach, and action coping condition the relationship between stress and well-being. Regression analyses were conducted using data from the National Longitudinal Study of Adolescent Health. The interaction of avoidant coping and stress helped explain why girls had more depressive symptoms than boys, action coping increased delinquent behavior for girls, while approach coping decreased delinquent behavior for boys and girls. Assisting adolescents in developing coping styles that discourage avoiding problems or taking quick action, but that encourage problem solving; can improve well-being, regardless of sex.

Analysis of previous theoretical work suggests that through the process of gender socialization and social interaction, cultural messages about the place and value of males and females in relation to others in the social world intimately linked to assumptions about the self (Gilligan 1982; Heimer 1996; Horwitz & White 1987; Rosenfield et al,, 2005). Male's and female's positions in the social structure contain different cultural messages. For males, these messages deemphasize their connection to others, foster individuation, independence, and support a higher sense of self-salience. Consequently, a strong sense of independence from others and their feelings may free them to act out against other people more easily. Moreover, a focus on personal interests and feelings to the exclusion of other's feelings may make it difficult to turn negative emotions inward (Heimer et al, 2006). As a result, males may be more likely to experience conduct problems like delinquency.

Seiffge-Krenke (1993) found that the female coping style does not differ from the coping pattern shown by clinical samples, suggesting that girls are more prone to develop internalising disorders. Compas et al. (1993) confirmed this assumption and hypothesized that the high incidence of depression in girls could explained by the use of emotionally attentive or ruminative coping strategies. In contrast, by using more emotion-distraction strategies, which facilitate problem-focused coping, instrumental

behavior, and a sense of control, boys are prone to develop externalising behavioral problems. This suggested higher incidence of externalising behavioral problems in boys might be due to coping efforts that intended to gain some degree of control over the demanding situation.

2.3.6. Cross-cultural comparison of coping strategies

Cross-cultural comparison is a method to test the value of paradigms that emerged in national studies for other countries. Nevertheless, cross-cultural approaches to measure coping strategies in children and adolescents were rare so far. Comparisons of self-reported stress, coping, and depression among early adolescents revealed equal level of major life stress and use of externalisation along with social support and problem solving coping at cross-cultural level (Jose et al., 1998).

As mentioned by Frydenberg et al., (2003) few studies compared young people coping styles across different communities. Schönpflug and Jansen (1995), comparing German and Polish adolescents, Jose et al. (1998), comparing Russian and American adolescents, Seiffge-Krenke and Shulman (1990), comparing German and Israeli adolescents, and a 13-nation study of Gibson-Kline (1996) found more similarities than differences. Gibson-Kline (1996) examined 5,000 young people 13–15 years of age highlights the importance of young people across the globe and found that across the communities, problem-solving strategies, the will to assist, and interpersonal strategies were the most frequently used. Moreover, the author found that individual problem solving was by far the most commonly reported coping strategy. Social and cultural differences could affect the adapted coping styles, response to stress and resultant psychopathology because of interaction between culture, personality traits, and nature of stressors (Frydenberg et al., 2003).

Another study that identified differences between cultural groups, namely, German and Turkish adolescents was that of Jerusalem and Schwarzer (1988) who reported differences in the broad categories of instrumental and emotional coping, with the Turkish adolescents using more emotional coping than did the German group (c f. Frydenberg et al, 2003).

McCarty and colleagues (1999) addressed the interesting question, which role cultural values and traditions play in the development of coping strategies. They interviewed 6-14 year-old children in Thailand and the United States (*n*= 141).Their self-reports of coping were compared with regard to specific stressors.The theoretical framework of this study was the primary-secondary model (Rothbaum et al., 1982). Additionally, the authors distinguished between overt (visible) vs. covert coping methods. In spite of several similarities across nations, differences in coping behavior could identify. Thai children reported covert coping than American children with regard to stressors like "adult anger" and "injection in a doctor's office". American children adjusted more often than Thai children did i.e when having to cope with an injury. This study stresses the necessity for more attention to cultural or national similarities or differences in coping behavior.

Friedman and Mann (1993) conducted a cross-national study and compared decision-coping patterns of Australian and Israeli adolescents (*n*= 1456). Israeli adolescents scored higher on self-confidence and vigilance. It was found for both samples that decision-coping pattern contain two kinds of strategies, namely a vigilant and a maladaptive strategy (e.g. panic).

Seiffge-Krenke (1992) stressed the similarities in the coping behavior of German, Finnish, and Israeli adolescents. Watson and Sinha (1998) compared Australian (*n*= 388) and Canadian (*n*= 635) students in respect to the defense-style questionnaire. The Canadian sample showed higher means on nine scales of the defense style questionnaire. According to the authors, the identified differences might be due to cultural influences.

Olah (1995) examined cross-culturally coping behavior of adolescents across different anxiety-provoking situations. Adolescents *(n*= 721) from Italy, India, Hungary, Sweden, and Yemen were included in the study. Similarities across countries found in adolescents preferred avoidant strategy in high anxiety level situations, whereas at a low and medium anxiety level assimilative and constructive coping strategies were preferred. Adolescents in Europe reported the use of assimilative coping strategies more frequently compared to adolescents from India and Yemen who preferred emotion-focused strategies. The authors concluded that culture directs coping behavior

of adolescents, but experiences with special stressors have a stronger influence on the choice of coping strategies.

Frydenberg et al. (2003) examined how young people cope with their concerns. In their study samples of Australian, Colombian, German, and Palestinian students completed the general form of the Adolescent Coping Scale, an 80-item instrument used to measure coping. A comparison of young people's usage of 3 coping styles and 18 coping strategies within these communities indicated that Palestinian youth report greater usage of all but three strategies (namely, physical recreation, relaxation, and tension reduction), and German youth report the least usage of 2/3 of the strategies assessed. Both Palestinian and Colombian youth were noted to utilize more seek to belong, focus on the positive, social action, solving the problem, seeking spiritual support, and worry than were German or Australian adolescents.

The relative usage of coping strategies within national settings showed noticeable differences. For example, regardless of the national setting young people reported most frequent use of working hard and use of problem solving strategies. When it comes to more culturally determined activities such as physical recreation, the Australian and German students ranked this strategy more highly in their coping repertoires than do the Colombians, and more noticeably, the Palestinian students. For example, although physical recreation is ranked as the second most commonly used strategy for the German sample, it is ranked 16th by the Palestinians. Similarity in coping cannot be assumed across different student populations (Frydenberg et al., 2003).

Connor-Smith and Calvete (2005) in their study tested whether coping responses mediated the influence of perceived social support on symptoms of anxiety/depression, social withdrawal, and aggressive behavior in American (n=349) and Spanish students (n=437). Participants completed measures of perceived support, social stress, coping, and distress. Coping partially mediated relations between perceived support and distress, with coping mediation most evident in individuals facing high levels of social stress. Decreased use of disengagement coping by individuals with highly perceived support appears partially explain the protective value of perceived social support. Multiple covariance structure analysis showed that models linking perceived support, coping, and distress were very similar across cultures, suggesting that the mechanisms

underlying decreased risk for individuals with high-perceived support may be relatively independent of cultural context, and that interventions designed to increase perceived support and decrease disengagement could be appropriate in both cultures (Connor-Smith & Calvete, 2005).

Gelhaar and colleagues (2007) demonstrated high similarities in coping styles among adolescents from seven nations in dealing with leisure- and identity-related stressors; whereas in job- or parent-related problems cultural differences in coping style prevailed. Further, the importance of analyses on the coping strategy level (e.g. discussing with parents or thinking about the problem) was documented, as some cultural characteristics were masked by coping style level.

Seiffge-Krenke et al. (2009) investigated how European adolescents cope with future-related perceived stress. Altogether 3,154 adolescents (mean age of 15years) from four countries (*n*=1,071 Italians, *n*=1,433 Germans, *n*=308 French, and *n*=341 British) participated in the study. They completed the Problem Questionnaire, which assesses future-related stress, and the CASQ, which assesses how three coping styles (active coping, internal coping, and withdrawal) used to deal with future-related stress. German and British adolescents showed low levels of stress, whereas French and Italian adolescents had high levels. All adolescents anticipated future-related problems but did not portray their futures negatively. In addition, they dealt with future-related stress actively and showed high levels of coping competence. Adolescents used active coping strategies most frequently, followed by thinking about possible solutions. Dysfunctional coping strategies (e.g., withdrawal) were much less often in use. The effects of age, gender, and family variables on stress perception and coping style were negligible

A recent study by Seiffge-Krenke et al. (2010) focused on romantic stress and coping styles in the context of identity and future-related stressors in 8,654 adolescents with a mean age of M = 15.3 (SD =1.84). The adolescents from 17 countries grouped into seven regions, i.e., Mid-Europe, Northern Europe, Eastern Europe, Southern Europe, South Africa, South America, and the Middle East. Roughly, 80% of all adolescents employed adaptive coping styles in that they negotiated with the romantic partner, sought support from friends and others, and

shared an overall positive outlook. Adolescents from Mid, Northern, and Eastern Europe were the most active in negotiating and support seeking when dealing with romantic stressors.

Another study by Haid et al. (2010) investigated stress perception and coping styles in 3259 Turkish, Italian, and German adolescents with a mean age of 14.97 years (SD=1.74).The adolescents filled in self-report measures assessing stress perception and coping styles in two problem domains: future and identity. In order to allow for analyses of intra-country and inter-country variation, two subsamples were assessed per countryIt is noteworthy that the coping behavior was strikingly similar among Turkish, Italian, and German adolescents. Whereas active coping styles dominated in dealing with future-related stressors, relatively high withdrawal rates occurred in all three countries when identity problems have to deal.

Lam and Zane (2004) also found interesting differences in coping styles at cross-cultural level. The researchers examines ethnic differences in how Asian and White American students cope with interpersonal stressors and tests whether differences in self-construals mediate the relationship between ethnicity and coping. Asian-Americans found to be more oriented toward secondary control and less oriented toward primary control than White Americans. Independent self-construal fully mediated the ethnic difference in primary control. Greater orientation toward an independent self-construal accounted for the greater use of primary control among Whites, in relation to Asians. Interdependent self-construal partially mediated the ethnic difference in secondary control. Greater orientation toward an interdependent self-construal accounted for the greater use of secondary control among Asians, in relation to Whites. Other factors, such as structural variables, may account for further ethnic variations in secondary control coping. Research findings for coping strategies at cross-cultural level showed in Table 2.2.

Table 2.2: Findings on cross-cultural level of coping strategies in adolescence

Authors	Year	Sample	Description and findings
1. Seiffge-Krenke & Shulman	1990	German and Israeli adolescents (age range 15-17 years)	Coping behavior among German adolescents was more influenced by situational demands, with pronounced approach-avoidance behavior. Israeli adolescents showed less variability in coping behavior across situations, laid greater stress on cognitive factors, and showed a striking decrease in overall coping behavior with increasing age.
3. Frydenberg & Lewis	1993b	Anglo-Australian, Australian-European and Australian-Asian (age range 14-17 years)	Anglo-Australian students as a group used more tension reduction and less work and worry than did the other students. In contrast, the Australian-Asians appeared to use action that is more social, work, and seeking professional help. Australian-Europeans reported using seeking spiritual support largely than did the other two groups of students.
4. Jose,D'Anna, Cafasso, Bryant, Chiker, Gein & Zhezmer	1998	270 Russian and 270 American early adolescents (age range 10-14 years)	Russian and American adolescents reported equal levels of major life stress, but Russian adolescents reported greater levels of everyday life stress. Russian adolescents reported that they were less likely to use externalizing coping and more likely to use social support and problem solving coping compared with American adolescents. Russian adolescents also reported that they were more depressed.
2. Frydenberg, Lewis, Ardilla, Cairns & Kennedy	2001	319 students from Colombia, Northern Ireland, and Australia (age range 14-17 years)	Northern Irish students were significantly more likely to use non-productive coping strategies such as self-blame, tension reduction, and "not cope". They were also highest in the use of friends and in seeking social support. Colombian students most likely to use solving the problem, spiritual support, social action, seek professional help, and worry. The only strategy that the Australian students were more likely to use than the other two groups was relaxation.

2.3.7. Children's psychological adjustment and coping

Pincus and Friedman (2004) analyzed a number of studies reporting that for positive adjustment of children use of multiple coping responses (flexibility) is a predictor of positive psychological adjustment (Caplan, et al., 1991; Holahan & Moos, 1987; Siegel, 1983).

One of these studies (Caplan et al., 1991) showed that children who evidenced greater flexibility in alternating between problem-focused and emotion focused strategies were also more socially competent.

Siegel (1983) indicated that persons rated as successful copers reported using a greater variety of strategies than did unsuccessful copers. D'Amico (1994) also indicated that children rated high in social competence were less rigid in their coping responses than children rated low in social competence were. The question whether specific type of coping response predict a child's adjustment to a stressful event has been explored in the child-coping literature. In general, study findings indicate that children who are able to use both emotion-focused coping strategies and problem-focused coping strategies when they are appropriate have more favorable emotional and behavioral adjustment than children who rely solely on one type of strategy. For example, Weisz et al. (1994) showed that young children's (aged 6 and 9 years) reports of increased secondary coping (emotion-focused coping) in response to relatively uncontrollable stressors were consistently related to more favorable adjustment, as reflected in parent ratings of overall behavioral and emotional problems.

Additionally, children who showed increased reports of primary coping (problem-focused coping) in response to relatively controllable stressors reported better adjustment. Compas et al. (1988) found that problem-focused strategies used for controllable, interpersonal stressors related negatively to emotional-behavioral problems, whereas the emotion-focused alternatives relate positively to emotional/behavioral problems.

However, Spivack and Shure (1982) reported that even for relatively controllable interpersonal stressors, coping strategies aimed at emotional regulation might also useful and important for positive adjustment, as children might not effectively employ

a problem-focused technique until they have ability to regulate their emotions. Taken together these studies seem to suggest that those children who were able to utilize emotion-focused coping strategies when appropriate have more favorable behavioral and emotional adjustment and judged to be more effective copers than children who rely solely on problem-focused coping strategies (Altshuler & Ruble, 1989; Brown et al., 1986; Weisz et al., 1994).

2.3.8 Psychopathology and coping strategies

Coping strategies in children and adolescents found to be of strong predictive value for psychopathology (Colomba, Santiago & Rosello, 1999). Self-reported emotional or behavioral problems varied as a function of the match between perceived control and the generation of problem-focused alternatives for coping with social stressors (Compas et al., 1988). Cognitive coping strategies also seemed to play an important role in adolescence. In line with earlier studies (Garnefski et al., 2001) adolescents with more depressive symptoms reported to use self-blame, rumination, and catastrophizing to a significantly higher extent and positive refocusing and positive reappraisal to a significantly lower extent. In addition, a stronger relationship between stress and depressive symptoms found for those who employed self-blame, or rumination to a higher extent or positive reappraisal to a lesser extent as compared to those who did not. These findings suggest that cognitive coping plays an important role in determining whether adolescents develop emotional problems after the experience of stressful events Kraaij et al. (2002).

Kraaij et al. (2002) stated further, that cognitive coping does not only have a direct relationship with depression, but also seems to have a buffering effect in times of stress.

In a longitudinal study, Seiffge-Krenke (2000) explored causal links between stressful events, coping and adolescent is symptomology. Over time critical life events and daily stressors were found to be strongly related, and in particular avoidant coping emerged as a significant predictor of adolescent symptomology.

So on several other studies have explored the impact of avoidant coping on adolescent depression. Connor-Smith et al. (2000) has shown the relations between coping and both internalising and externalising symptoms. Emotion-focused coping found significantly related to internalisation and externalisation symptoms. Primary and secondary control coping were found negatively related to symptoms of psychopathology (internalisation and externalisation) whereas disengagement coping was found positively related to psychopathology symptoms in both genders.

Hampel et al. (2005) have shown the same findings in their longitudinal study of gender and developmental effects on perceived stress, coping, physical symptoms and psychological disorders among children and adolescents. Also lower levels of emotion-focused coping strategies distraction and minimization found significantly related to emotional and behavioural disorders across both genders.

Adaptive coping to deal with stress in childhood was a protective factor for later depressive symptomology (Seiffge-Krenke, 2000) similarly positive associations between avoidant coping and depressive symptoms or anxiety (Seiffge-Krenke, 1998). Comparison of research findings by Hampel et al. (2005) and Connor-Smith et al. (2000) provides empirical theoretical back ground for this study (see table 2.3).

Table2.3. Comparison of research findings by Hampel et al. (2005) and Connor-Smith et al. (2000)

Connor-Smith, Compas, Wadsworth, Thomson, and Saltzman (2000)	Hampel, Kümmel, Meier, Desman, and Dickow (2005)
Females reported no social support seeking as compared to males.	Females reported to seek more social support as compared to males.
Females used proportionately more maladaptive emotional regulation strategies as compared to males.	Evaluation of lower amount of distraction as coping strategy in females as compared to males and use more emotional regulation (maladaptive coping).
Females reported more problem solving, emotional expression, and physiological symptoms as compared to boys, but not on internalisation.	Girls reported higher level of somatic complaints (physiological symptoms).Low levels of the emotion-focused strategies though less internalisation as compared to males.
Approach-oriented coping was negatively correlated with externalisation problems whereas avoidant (emotion-focused) was found related to internalising symptoms in both genders.	Use of more problem-focused coping and emotional expression in females as compared to males, developmental increase in anger control problems internalisation and externalisation tendency in both genders.
Females scored higher than males on positive thinking and emotion regulation, whereas males scored higher on impulsive action, escape, and inaction (more emotion-focused coping strategies).	Males reported use of more emotion-focused coping while females reported higher level of positive thinking and regulation of stress by emotion control.
Disengagement coping (maladaptive) found strongly related to internalisation and externalisation (emotional and behavioral problems).	Maladaptive coping, distraction, and minimization also found longitudinally related to emotional and behavioral disorders (internalisation and externalisation).

2.3.9. Coping styles as mediator of psychopathology

Although many factors are involved in the development of psychological stress but coping styles proved to be a significant contributor. Problem-focused coping appears

to be the most adaptive coping style as it is associated with reduced psychological distress (negative stress). Alternatively, avoidant coping appears the most maladaptive as it is associated with increased distress, (Ben-Zur, 1999; Bouteyre, Maurel, & Bernaud, 2007; Carver, Scheier, & Weintraub, 1989; Crockett et al., 2007; Folkman, 1997; Knibb & Horton, 2008; Penland, Masten, Zelhart, Fournet, & Callahan, 2000; Sherbourne, Hays, & Wells, 1995; Wijndaele et al., 2007).

The results regarding emotion-focused coping were more complex as this coping style associate with both increased and decreased levels of psychological distress, (Ben-Zur, 1999; Billings & Moos, 1984; Bouteyre, Maurel, & Bernaud, 2007; Brown & Harris, 1978b; Brown, Svrakic, Przybeck, & Cloninger, 1992; Carver, Scheier, & Weintraub, 1989; Crockett et al., 2007; Knibb & Horton, 2008; Penland, Masten, Zelhart, Fournet, & Callahan, 2000; Wijndaele et al., 2007).

The following section will analyse previous research to demonstrate the relationship between coping styles and psychopathology.

2.3.9.1. Avoidant coping and psychopathology

Avoidant coping has been shown to be associated with greater stress than other coping styles. In general, clinically depressed participants experience less improvement and greater dysfunction when they engage in avoidant coping (Billings & Moos, 1984).

Holahan et al. (2005) showed that avoidant coping is positively associated with depressive symptoms in a ten year longitudinal study. Their study examined the coping styles, life stressors, and depressive symptoms of 1,211 participants over a ten-year period. Participants measured for baseline depression levels at the initial testing period, four years later and ten years later. Holahan et al. found that individuals that engaged in avoidant coping at baseline were more likely to experience chronic and acute stressors when measured four years later and to exhibit depressive symptoms ten years later. Although Holahan et al's research is only correlational it does suggest that avoidant coping may fail to remove stressors and consequently depressive symptoms may increase. An important element of this study

is that depressive symptoms were controlled for at the beginning, suggesting that the increases in life stressors and depression may have been influenced by avoidant coping.

Avoidant coping has also been associated with increased psychological distress in non-clinical populations such as the general population, and university samples (Wijndaele et al., 2007). Penland et al. (2000) found in their university study that participants experienced greater depressive symptoms when they engaged in an avoidant coping style such as wishful thinking.

A study by Crockett et al. (2007) also revealed strong positive associations between avoidant coping and psychological distress. Participants showed to have increased symptoms of anxiety and depression when they engaged in avoidant coping, as opposed to participants that engaged in problem-focused coping. The positive association shown between avoidant coping and stress, anxiety and depression may occur because avoidant coping fails to remove minor stressors (Holahan et al., 2005).

As stressors allowed growing, they can become more stressful, resulting in an individual experiencing increased anxiety and depression. A negative cycle can then develop where depressed individuals may be more likely to appraise their ability to deal with stressors as low and be more pessimistic about future outcomes (Abramson, Seligman, & Teasdale, 1978). This negative thinking may lead them to engage in more passive coping styles such as avoidant coping and thus the negative cycle is continued.

2.3.9.2. Problem-focused coping and psychopathology

Problem-focused coping is the most adaptive coping style, as it appears to reduce symptoms of stress, anxiety, and depression. A number of different populations have demonstrated that problem-focused coping is associated with reduced distress. Wijndaele et al. (2007) recently showed that problem-focused coping is the most effective at reducing psychological distress in the general population. Their study analysed the coping styles and psychological distress levels of 2,616 Belgian adults. Wijndaele et al. found that participants that engaged in problem-focused coping had reduced symptoms of stress, anxiety, and depression, compared to participants that

engaged in other coping styles. Although a significant association was shown between problem-focused coping and psychological distress it is important to note that Wijndaele et al.'s study had a low response rate (28%), which may have affected the generality of the study.

2.3.9.3 Emotion-focused coping and psychopathology

Emotion-focused coping incorporates a number of diverse coping styles that could be both adaptive and maladaptive (Billings & Moos, 1984; Bouteyre, 2007; Crockett, 2007; Penland, 2000; Wijndaele et al., 2007). In general, the coping strategies that focus on negative emotions and thoughts appear to increase psychological distress (e.g. venting of emotions and rumination), whereas coping strategies that regulate emotion (e.g. seeking social support, affect regulation, and acceptance) appear to reduce distress.

However, Penland et al. (2000) found venting of emotions was an adaptive coping strategy as participants' experienced decreased depressive symptoms when they expressed their distressing emotions.

Summary:

In summary, research has shown coping styles are associated with psychopathology in a number of different populations. Problem-focused coping is negatively associated with stress, anxiety and depressive symptoms while avoidant coping is positively associated with stress, anxiety and depression. The research surrounding emotion-focused coping has produced mixed findings, with some studies showing it to be associated with increased and others decreased psychopathology. This appears to occur because emotion-focused coping encompasses a broad range of coping strategies, each with varying effectiveness (van Berkel, 2009). At cross-cultural level, however this pattern varied itself not much. Students have lower levels of stress, anxiety, and depression when they engage in problem-focused coping compared to other coping styles. Problem-focused coping appears to be effective simply because it removes daily stressors. The removal of these stressors therefore decreases the likelihood of experiencing distress. In addition, problem-focused coping may be negatively associated with psychological distress, as it requires individuals to set and accomplish goals. Consequently, individuals provided with a sense of mastery and control, thus reducing their anxiety and stress (Folkman, 1997).

2.3.10. Comparison of studies for the association between coping and psychological adjustment and symptoms of psychopathology

In the context of literature review about coping and psychopathology Compas et al. (2001) have done lot of work and analyzed available literature from last three decades , some of the studies reviewed by Compas et al (2001) were given below (see Table 2.4). To summarize Compas et al. (2001) findings states that in the last few decades a few studies have revealed the association between adaptive and maladaptive coping strategies and psychopathology. However, not extensive but near to enough work been done which helped to ascertain new dimensions and models to test the association between coping and psychological adjustment.

Table2.4. Showed reviewed studies by Compas et al. (2001)

Authors	Stressor	Psychological correlates	Findings
Causey & Dubow (1992)	Social and academic	Internalising, competence	N=418, problem-focused coping across , positive adjustment , negative coping highly correlated with poor adjustment
Compas, Malcarne & Fodacaro (1988)	Interpersonal and academic	Internalising, externalising	N= 130 Problem-focused coping lead to better adjustment in girls, less internalising and externalising from parents reports
Connor-Smith et al. (2002)	Interpersonal stressors	Internalising, externalising	N=450 primary and secondary control coping lead to less internalising and externalising. Disengagement coping lead to higher internalisation and externalisation (from self report).
Eisenberg, Fabes, Nyman, Bernzweig, & Pinnuelas (1994)	General and social conflicts	Internalising,(emotionality , negative affect ,externalising(anger , reactions)	N=93, Engagement: better adjustment, constructive coping associated with less escape and defensive behaviors. Disengagement, acting out versus avoidant related to less venting and physical retaliation.
Garber & Little (1999)	Academic and social stressors	Total behavior problems, competence	N=51,Engagment coping, positive adjustment, high competence group reported more positive coping than decreasing competence group
Hart (1991)	Academic and social stressors	Anger reactivity	N=63,Focus on the positive coping less anger, poorer adjustment due to disengagement coping, wishful thinking related to more anger.

2.4 Personality

However, a number of studies examined the direct, mediated, and moderated relationbetween personality styles and psychopathology in adolescence but due to

methodological differences it is still hard to verify this relationship. Personality factors found reasonably invariant across age and gender but individual differences found less stable in adolescence and childhood. The findings explained the role of personality traits backward from adulthood and made a bridge between childhood temperament and coping for later adjustment (Ehrler, Evans & McGhee, 1999).

2.4.1 Big-Five personality theory

Big-Five Personality theory has sustained some degree of acceptance as a comprehensive and practical model for explaining individual differences and characteristics. Big-Five theory consists of five distinct traits of personal and motivational styles, which include Agreeableness, Neuroticism, Extraversion, Conscientiousness, and Openness to Experience.

Ehrler et al. (1999) in their study on Big-Five personality traits described the above-mentioned five traits as:

1. *Neuroticism* N: The general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust is the core of the N domain. However, N includes more than susceptibility to psychological distress because disruptive emotions interfere with adaptation.

2. *Extraversion* E: The general tendency to be outgoing. In addition, high E's prefer large groups and gatherings and are assertive, active, and talkative. They like stimulation and tend to be cheerful in disposition. They are upbeat, energetic, and optimistic.

3. *Openness* O: The general tendency to be curious about both inner and outer worlds. O includes the experience elements of an active imagination, aesthetic sensitivity, and attentiveness to inner feelings, preference for variety, intellectual curiosity, and independence of judgment. A high O also includes individuals who are unconventional, willing to question authority, and ready to entertain new ethical and social ideas.

4. *Agreeableness* A: The general tendency to be altruistic. The high A is sympathetic to others and eager to help them, and believes that others will be equally helpful in return.

5. *Conscientiousness* C: The general tendency to be able to resist impulses and temptations. The conscientious individual is purposeful, strong-willed, and determined. On the positive side, high C is associated with academic and occupational achievement; on the negative side, it may lead to annoying fastidiousness, compulsive neatness, or workaholic behaviour

2.4.2 The Big Five model in developmental research

As stated by Szirmák (2005) the psycho-lexical approach to personality yielded the "Big Five" personality factors that represent the major domains of personality description. A growing number of researchers embrace these factors. The main interest in the lexically oriented personality investigations focused on adult personality characteristics and on the stability and applicability of the five factors across languages, cultures, methods, and applied fields.

Although the Big-Five dimensions have mainly studied in adult samples, but children samples were not ignored. However, the ratings obtained less extensively in samples of children and young adolescents. Digman (1963), for example, started the first lexically oriented research with major interest in child personality structure through judgments of behavioral characteristics. The main goal was to test the complexity of personality in childhood and to search for the fundamental dimensions of personality at an early age. Digman's (1963, 1965, and 1972) early work inspired and influenced by Cattel's personality investigations. He was also looking for parallels between his own and Cattel's adult data. Digman suggested, "Seven or eight factors would be an expected value for the number of factors to be found in the domain of child behavior ratings" (Digman, 1972, p. 588).

Later, Digman and Takemoto-Chock (1981), Digman and Inouye (1986) and Digman (1989) did several studies in developmental personality using traits and behavioral

characteristics, and reported five recurring factors, which they described as equivalents of the adult Big Five factors.

Digman (1994) stated that the five-factor model clearly reappears in child personality, and systems that are more complex do not. Digman and Shmelyov (1996) extended the investigations to the Russian language and had 480 Russian schoolchildren rated by their teachers on three sources of scales (temperament, personality, and education). They found high similarities with the traditional Big Five structure.

Digman reanalyzed fourteen Big Five studies, among them four with children and one with adolescents, and came to the conclusion that both in the developmental and adult samples, two higher order factors (metatraits) may be distinguished: Factor α and β (Digman, 1994). Factor α was interpreted as a socialization factor relying on the Big Five factors Agreeableness, Conscientiousness and Emotionality. He interpreted metatrait β in terms of personal growth versus personal construction. This higher order factor captured Extraversion and Intellect. Digman assumed that child, adolescent and adult studies do imply the presence of the higher order factors and "these constructs furnish links between the theoretical Big Five model and traditional contemporary theories of personality" (Digman, 1997).

Later, Goldberg (2001) also reanalyzed Digman's six data-pools from the years between 1959 and 1967. Goldberg (2001) concluded that in all six samples of children no other broad domains than the Big Five factors appear and so provided significant evidence for the Big Five relevance of teacher based personality assessment in childhood.

Hampson et al. (2001) tested developmental data, and searched for former participants who in the meantime had already reached their late adulthood. They collected personality relevant data from as much as 60 percent of the original sample with the goal of establishing possible links between the child and adult personality.

The classification into the Big Five factors of teacher's assessment of traits in children aged 4-12 described by Mervielde (1994) in his study on the relevance of the Big Five in childhood. In a research group, the validity of the Big Five factors on the

basis of teachers' ratings of children's personality was studied (Mervielde, Buyst & De Fruyt, 1995). Both studies yielded a factor structure of personality characteristics well corresponding to the Big Five factors, especially for the ages of 7-12 years. Mervielde and De Fruyt (2000) investigated the relevance of the Big Five model for the age group of 9 to 10 year olds. None of the five factors could fully recover. Instead, their study revealed a clearly interpretable three factorial structure with an Intellect-Conscientiousness, Extraversion-Emotional Stability, and Agreeableness factor. They attributed the results to a lesser degree of differentiation at younger ages that relies on the limited cognitive abilities of children on one hand, and to highly evaluative judgments typical for the age group, on the other.

John, Caspi, Robins, Moffitt, and Stouthamer-Loeber (1994) searched for the Big Five in young adolescent boys (aged 12 and 13 years old) and used ratings by the mothers. They developed Big Five relevant scales based on the 100 items of the California Child Q-set (CCQ; Block & Bock, 1980). Using a set of scales largely based on the CCQ items, they concluded on seven factors, a 'Little-Five' structure, fairly equivalent to the adult Big Five factors, plus two other factors, respectively labeled Irritability (i.e., "He whines and pouts often") and Positive Activity (for example: "He is physically active"). They argued that the two additional factors are "relatively independent personality dimensions in early adolescence and that they may eventually merge with Extraversion and Neuroticism, respectively, to form a single super ordinate dimension in adulthood" (John et al, 1994).

Szirmák (2005) reported that the seven-factor solution showed some striking similarities to the Big Seven factor model (Almagor, Tellegen & Waller, 1995; Tellegen & Waller, 1987) found cross-culturally stable (Benet & Waller, 1995; Waller, 1999). Irritability shared a lot with Negative Emotionality ("nervous, moody, feeling hurt"), and Positive Activity with Positive Emotionality ("sociable, animated, energetic"). John et al. (1994), recommended in spite of their arguments in favor of these two additional factors, the use of only the traditional Big Five factors for further research purposes until the acceptance of the two additional dimensions is proven through independent research. They suggested this in favor of a "conceptual continuity in developmental and adult personality research (Szirmák, 2005).

2.4.3. Developmental personality descriptions and the Big Five

The following studies provided comprehensive and international data of child and young adolescent personality, contributed substantially to child personality and temperament research and yielded new aspects for research in developmental psychology. Research projects that aimed at defining the five dimensions in children's personality were conducted based on a 'lexicon' of free parental descriptions of children (Buyst, De Fruyt & Mervielde, 1994; Kohnstamm, Mervielde, Besevegis & Halverson, 1995; Slotboom, Elphink & Kohstamm, 1996).

Kohnstamm et al. (1998) tested that certain antecedents of personality and temperament have, at certain age emergence of individual differences, and also found how universal these dimensions in childhood were, and how early personality characteristics can be interpreted in terms of the domains of the Big Five factors (Kohnstamm, Halverson, Mervielde & Havill, 1998).

Kohnstamm et al.'s Big Five oriented study based on free descriptions collected in seven countries to provide a comprehensive pool of descriptors. Over two thousand children between the ages of 2 and 12 were described in this research and over two thousand parents provided personality relevant data about their children (Slotboom & Elphick, 1998). There was a profound variation in the average number of descriptors used by parents: it varied between 37 for Germany and 11 for the U.S.A. These variations considered were cultural and partly situational as the interview settings varied across the countries (Kohnstamm, Halverson, Mervielde & Havill, 1998). In regards to the relevance, Mervielde (1998) reported that 68 percent of the free descriptors used by parents could be sorted into the categories of the Big Five.

2.4.4. Cross-cultural differences in Personality traits

McCrae and Costa (1990) examined issues of long-term stability concerning the Big Five factors, Neuroticism, Extraversion, Openness, Conscientiousness, and Agreeableness. Based on the findings of selected longitudinal studies (e.g., Conley,

1984; Costa & McCrae, 1988; Haan, Millsap, & Hartka, 1986), the authors reported a high degree of rank stability on personality dimensions beginning in young adulthood.

As cited by Knoll (2002) Stability in this case refers to an individual's unchanging position within the tested sample, his or her stable ranking position.

In more recent studies concerning, among other subjects, the structural stability of personality over the life span, McCrae et al. (1999, 2000) found additional evidence of structural invariance of personality among different age groups in cross-cultural comparisons. The authors suggest that cross-sectional studies of age differences in different countries provide a simple way to avoid some limitations of cohort and cultural effects, for different cultures have different histories. In these most recent studies, the authors analyzed data from Germany, Italy, Portugal, Croatia, South Korea, Estonia, Japan, the Czech Republic, Spain, and Turkey. Compelling evidence for the relative stability of personality in age groups between 14 to 50+ years was reported (Knoll, 2003).

Because of the increase and decrease of mean scores over time, McCrae and Costa, refer that "intrinsic maturation of personality." Absolute scores may change, but inter-individual differences remain constant. Costa and McCrae (1988) reported slight changes in means for Neuroticism, Extraversion, and Openness comparing younger and older cohorts cross-sectionally. Decrements in Extraversion, Openness, and Neuroticism also found significant.

As for cross-cultural data, McCrae et al. (1999, 2000) replicated the changes in Neuroticism, Extraversion, and Openness to Experience and found increases in Agreeableness and Conscientiousness in older age groups (Knoll 2002). The same was found true for longitudinal data in which test-retest correlations were found over 6, 12, or 20 years that strongly resembled short-term retest reliabilities (Costa & McCrae, 1992; Finn, 1986). Mainly, structural variation turned out to be small, which is surprising, considering the innumerable experiences and life-conditions an individual faces in his or her life course of which one would readily expect a radical change in a person's personality equipment.

2.4.5. Personality and coping style

Lazarus' cognitive-phenomenological theory of psychological distress suggests that personality may influence the type of coping style one engage in (Lazarus, 1966). As seen earlier, coping contains two processes: the appraisal of the situation, and the subsequent employment of an appropriate coping style (Lazarus & Folkman, 1984).

Lazarus suggests that one's personality influences the appraisal process and consequently the coping style the person choose. Individuals with optimistic and positive personalities were more likely to appraise a stressful situation more positively and consequently engage in a pro-active coping style (Ball et al., 2002). In contrast, more pessimistic or fearful individuals were more likely to appraise a stressful situation as negative and underestimate their ability to deal with the stressor. This leads them to choose a more passive coping style (Ball et al., 2002). Therefore, stress is not caused solely by the situation or by personality characteristics, but by the interaction between the two (Montgomery & Rupp, 2005).

Lazarus' cognitive-phenomenological theory of psychological distress also suggests that individuals with maladaptive personality traits may be more inclined to engage in avoidant coping as they were characterized by higher levels of pessimism and low self-esteem (Cloninger et al., 1993). This high pessimism and low self-esteem may lead them to appraise stressful situations and their ability to successfully resolve stressors more negatively, thus causing them to choose a passive coping strategy. In addition, low self-directed individuals may engage in a passive coping style such as avoidant coping as they struggle with motivation and goal setting. This relationship between high harm avoidance, low self-directedness and avoidant coping could possibly develop into a negative cycle. For example, individuals with more maladaptive personalities may less likely resolve the stressors successfully; it was possibly due to their increased propensity to engage in maladaptive coping styles. Consequently, they may experience greater distress that in turn could encourage them to continue to appraise stressors and their coping resources negatively.

Theoretical background

Knoll (2003) analyzed various models of personality and coping styles relationship presented by a fewer studies. Firstly, Bolger and Zuckerman (1995) provided a framework for studying personality in the stress process. On the basis of numerous findings, they argue that personality not only affects the exposure to stressful events, the reactivity to those events, or both, but also, if only in part, leads to predictable coping processes that in turn affect the outcomes of such events. The authors maintain that the stress process can be divided into two fundamental stages, i.e., stressor exposure and stressor reactivity. Exposure represents the degree to which a person is likely to experience a stressful event, and reactivity pertains to the extent to which a person is likely to show emotional or physical reaction to a stressful event. Moreover, the authors claim that reactivity to a stressor can further divided into coping choice and coping effectiveness, where choice represents the coping efforts individuals engaged in while responding to a stressful event. Effectiveness, on the other side, refers to the extent to which these coping efforts reduce the negative outcomes of the stressful event.

For partitions, (a) exposure and reactivity, and (b) choice and effectiveness, Bolger and Zuckerman established four models of effects personality might have on the stress process. The Bolger and Zuckerman models described.

1) The null model predicts that personality does not affect either coping choice or coping effectiveness.

2) The differential coping choice model holds that personality affects the choice of coping strategies but not their effectiveness. Once coping strategies are chosen they are equally effective for everyone. Here, coping mediates between personality and outcome.

3) The differential coping-effectiveness model proposes that personality does not have an effect on coping choice, yet coping still explains personality effects on reactivity. This occurs if personality moderates the effectiveness of coping.

4) Finally, the differential choice-effectiveness model holds that personality leads to differences in coping choice (mediation) and coping effectiveness (moderation) and both account for personality differences in stress outcomes.

Here, it is important to compare the relative impact of the two mediation and moderation processes.

The authors noted that when coping applied to explain personality effects, coping-choice models were the standard approach. Many studies have so far investigated the mediational role of coping when it comes to more specific lower-order trait variables or so-called personal resources. Possible mediation of Optimism or Locus of Control outcome relationships have been studied in health area (Carver et al., 1993; Scheier et al. 1989; Stanton & Snider, 1993), ego-relevant (Aspinwall & Taylor, 1992), and other stressful settings (Holahan & Moos, 1990, 1991).

Although a large amount of literature has analyzed the associations between personality and psychological distress and coping styles, less attention has focused on the associations between personality and coping styles themselves. This section will review the few studies that have examined the relationship between personality and coping styles.

An interesting study by Connor-Smith & Compas (2002) find out core verses surface characteristics of personality in adolescence, Mediated, and moderated models were used to explore the role of coping in the relationship between sociotropy and symptoms of anxiety and depression. Analyses testing a mediated model investigated the hypothesis that relations between sociotropy and symptoms of distress accounted for primarily by the coping strategies the sociotropic individuals have selected. Although sociotropic individuals did have a slight tendency to choose less effective coping strategies, the link between sociotropy and coping was not strong, and coping did not serve as a mediator. Unlike neuroticism, which linked clearly to disengagement coping, it may be that sociotropy primarily influences which types of negative events perceived as highly stressful, rather than dictating coping responses to the event. Although this study suggests that relations between sociotropy and anxiety/depression cannot be explained by ineffective coping, only a narrow range of social stressors were investigated, making it premature to conclude that coping is not a mediator. A second set of moderated model analyses tested the hypothesis that coping strategies would either amplify or buffer the connection between sociotropy and symptoms of distress. Primary and secondary control coping both served as buffers,

indicating a weaker relationship between sociotropy and symptoms of anxiety and depression for individuals using high levels of either strategy. The opposite was true for individuals relying primarily on disengagement coping, which served to amplify the relationship between sociotropy and distress. Although the amount of variance accounted for by moderator effects in these analyses was small, averaging around 2%, interactions in field studies typically account for only 1-3% of the variance. Moderated model findings were consistent with expectations, and suggest that the coping strategies implemented by sociotropic individuals play a significant role in determining levels of depression and anxiety. Attention to the specific coping strategies comprising the broad factors explored in this study may provide greater insight into the interactions between coping and sociotropy. A major component of primary control engagement coping is the use of social support for emotional regulation and expression. Given the importance that sociotropic individuals place on relationships, use of social support resources is likely to be a particularly successful coping strategy. Thus, the ability to generate and access social support may be an important buffer against depression and anxiety for sociotropic individuals.

Secondary control engagement coping strategies include using cognitive restructuring to challenge negative assumptions and find positive aspects of difficult situations, accepting unchangeable situations, and diverting attention from unsolvable problems. Thus, although most sociotropic individuals may initially respond to an interpersonal stressor with heightened distress, those accomplished in the use of secondary control coping strategies may gain perspective on the event more quickly, avoiding longer lasting symptoms of depression and anxiety.

The use of disengagement coping techniques amplified the relationship between sociotropy and anxiety/depression because of the negative effects of avoidance and denial described above. In addition, avoidance and denial prevent the use of protective primary and secondary control coping (Conner-Smith & Compas, 2002). Moreover being more vulnerable to increased psychological distress, individuals with high harm avoidance and low self-directedness inclined also more to get engaged in maladaptive coping styles such as avoidant coping or rumination.

2.4.6. Psychopathology and personality styles

In the context of child and adolescent psychopathology, personality styles of individuals exhibit important role. Personality traits such as sociotropy were found to be effective as a vulnerability factor for externalisation in stressful situations such as social rejection, achievement, failure etc. In addition, temperament linked casually with the development of psychopathology (Rothbart & Ahadi, 1994). The role of gender, age, personality, and stressors supposed to effect life stress and adjustment in early, late, and middle adolescence (Compas et al., 1988).

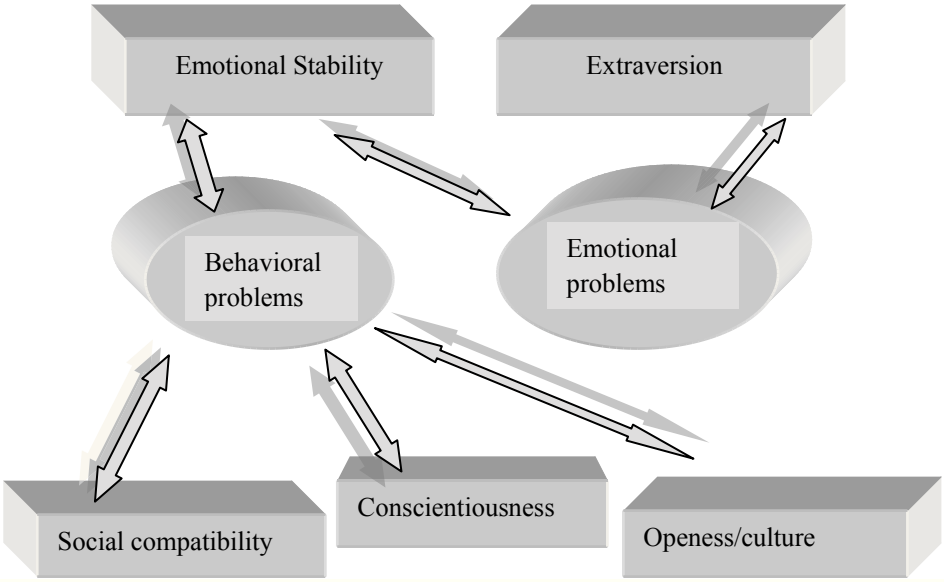

Figure 1: An overview of FFFK subscales and their interaction with Emotional and behavioural problems The personality traits here with the NEO Personality Inventory-Revised (Costa & McCrae, 1994). Teacher Report Form (TRF, Achenbach, 1991) and the Behavior Adapted after Assessment System for Children (BASC, Reynolds & Kamphaus, 1992).

Ehrler et al. (1999) conducted an investigation to link Big-Five personality traits with behaviour problems identified in childhood. Eighty-six children ranging in age from 9 to 13 were rated by their respective classroom teacher using an experimental ratings instrument developed to measure Big-Five personality constructs and behavior concurrently. Results have shown distinct patterns of behavior problems associated with various personality characteristics. Children with low scores in Agreeableness and Conscientiousness exhibit social problems, conduct problems, attention deficits, and hyperactivity. Children with low scores on the scale, openness to experience, exhibit problems in social behavior, conduct, and attention.

Another study conducted by Barbaranelli, Caprara, Rabasca and Pastorelli (2002) have shown a high degree of congruence for Big Five factors. Self-reports, parent and teacher ratings resulted although significantly convergent. Big Five factors have been found to be concurrent predictors of academic achievement and of externalizing and internalizing problematic behavior syndromes.

Asendorpf and Van Aken (2003) in their study reported that Big Five traits were related to judgments and behavioral observations of inhibitions and aggressiveness. Neuroticism and low extraversion found correlated with social inhibition, low agreeableness, and low consciousness. In their 9-year longitudinal study, these correlations found consistent throughout childhood.

As mentioned by Asendorpf and Van Aken (2003) externalising problems such as aggression, stealing and lying, specifically impulsivity, and hyperactivity imply a pattern of low agreeableness and low conscientiousness. In contrast, internalising problems such as anxiety, somatic complaints, social inhibition, and social withdrawal imply a pattern of low extraversion and high neuroticism.

Victor (1994, cited after Asendorpf & Van Aken, 2003) reported various associations between the Big Five and several measures of problem behaviour in children. Conduct disorder was related to extraversion, and low agreeableness and conscientiousness; socialized aggression to extraversion, and low agreeableness and openness; anxiety/withdrawal to low extraversion, neuroticism and low openness; attention problems to low conscientiousness and openness; and motor excess to low agreeableness, to neuroticism and to low openness. These results provide support that personality influences appraisal processes which affect psychological adjustment (Cutrona, 1989).

3. Restatement of the present study, research questions, and hypotheses

Prevalence of internalisation and externalisation presented a significant health problem during childhood and adolescence (Compas et al., 2004). Along with several key issues in the area of stress research such as negative emotions, emotional distress, empirically derived symptoms, and categorical diagnosis, stressors are the central feature of current etiological theories of child and adolescent psychopathology (Grant, Compas & Ey, 2004). Grant et al. (2003) have proposed a general conceptual model (Fig.1) including five central propositions namely stressors, moderators, mediators, specific relationship between stressors moderators, mediators and psychopathology, and lastly reciprocity of this specific relationship.

Grant et al. (2003) have proposed a general conceptual model (Fig.2) including five central propositions namely stressors, moderators, mediators, specific relationship between stressors moderators, mediators and psychopathology, and lastly reciprocity of this specific relationship.

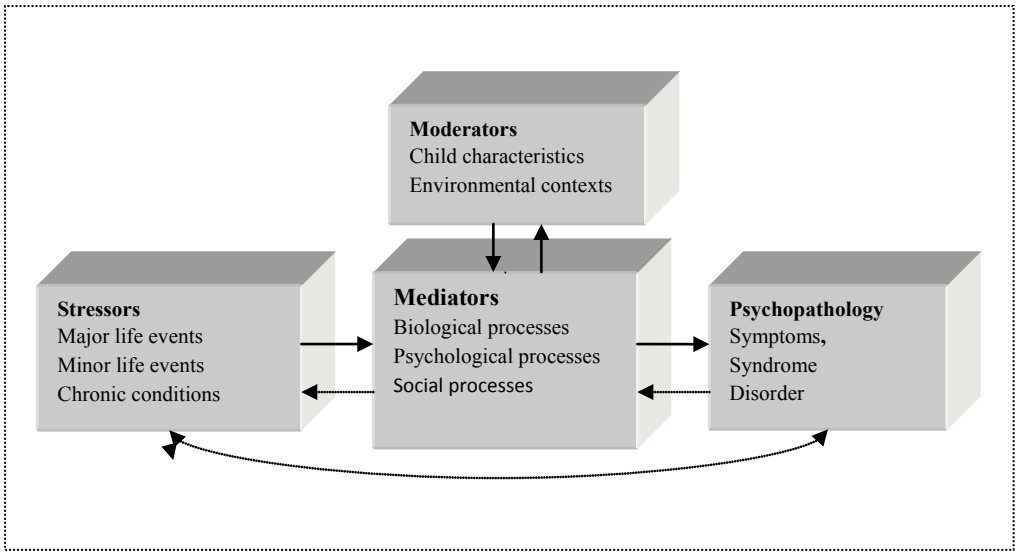

Figure 2: General conceptual model of psychopathology in children and adolescents (Grant et al, 2003).

Central propositions of conceptual model of Grant et al. (2003) are as follows:

1. Stressors contribute to psychopathology.

2. Moderators influence the relation between stressors and psychopathology.

3. Mediators explain the relation between stressors and psychopathology

4. There is specificity in the relations among stressors, moderators, mediators, and psychopathology.

5. The relations among stressors, moderators, mediators, and psychopathology are reciprocal and dynamic.

According to Grant et al. (2003), none of these propositions was mutually, exclusive.

All may operate at once or in dynamic interactions

The first proposition that stressors predict psychopathology found consistent in prospective studies that stressful life experiences predict psychological problems in children and adolescents over time.

Secondly, **moderators** conceptualized as protective factors (i.e., in existence prior to exposure to stressors) play an important role to increase or decrease the likelihood of psychopathology. Moderators may be conceptualized as diatheses, or protective factors, as they represent preexisting characteristics (i.e. existence prior to the exposure to the stressors).that increase or decrease the likelihood that stressors will lead to psychopathology. Moderators could be viewed as the mechanism that explains variability in processes and outcome ranging from equifinality to multifinelty (i.e., the mechanism that explain why varying processes may lead to varying outcomes (Grant et al. 2003).

According to Grant et al. (2003) potential moderating variables include age , gender , social support and fixed attributional or coping styles.

Moderating variables can possibly be the result of genetic vulnerabilities (or protective factors), non-stressor environmental influences (e.g parental, or peer influences, or possibly stress experiences). According to Grant et al. (2003), exposure to severe and chronic stressors may lead to the development of a stable attributional style that interacts with future stressors to predict psychopathology. One expected pattern of results that Grant (2003) derived from review of literature was that in response to

stressors, boys were more likely to exhibit externalising symptoms and girls more likely to exhibit internalising symptoms.

Grant et al. (2003) stated further that some variables may serve either a moderating or a mediating function (e.g., cognitive attributions, coping), mediators differ conceptually from moderators in the way they set off , or caused by the current stressful experience and serve to , conceptually and statistically , account for the relation between stressors and psychopathology (Baron & Kenny , 1986, Holmbeck, 1997).

Mediators' become characteristics of child or his or her social network in response to the stressor. In some cases, the child posses some of the mediating characteristics prior to the stress exposure , but the characteristics increases or decrease substantially in response to stressor Mediators comprise of variables like coping styles, cognitive attribution and family processes.

Role of specific variables in the model may vary across specific stressors and reciprocal relation between moderators, mediators, and stressors is capable of predicting the onset of psychopathology (from symptoms to disorder).

According to this proposition, a particular type of stressor (e.g., interpersonal rejection) linked with a particular type of psychological problem (e.g., depression) via a particular mediating process (e.g., ruminative coping) in the context of a particular moderating variable (e.g., female, gender, adolescent age).

The Final proposition by Grant et al (2003) stated that the **relations among stressors, mediators, and psychopathology** are reciprocal and dynamic broadly encompasses their hypotheses.

1) Each variable influences other except some e.g. fixed moderators like age.

2) The role of specific variable within the model may vary across specific stressors and shift over time (a mediator become a fixed pattern of response to a specific stressor and thus, interact as a moderator with subsequent stressors.

3) Reciprocal and dynamic relation among stressors, mediators, and moderators will predict not only the onset of psychological problems but also the outcome of symptoms and the movement from less to more severe forms of psychopathology e.g, gradual shift from depressive symptoms to depressive disorder.

These propositions from Grant et al. (2003) provide a practical dimension to test reciprocity of stress for predicting the onset of psychopathology in children and adolescent. The modal gives flexible and prospective approach to test and generalize the propositions at cross-cultural level.

Taking into account Grants general reciprocal modal of etiology of psychopathology this study aimed to explore the role of personality styles and effect of coping strategies (three domains of coping strategies) for predicting psychopathology in childhood and adolescence. The focus was to investigate:

- The role of employed coping strategies as moderators and mediators of stressors for psychopathology (internalisation and externalisation)
- Role of age, gender, ethnicity, and personality styles as moderators for stressors and risk factors for the development of psychopathology
- Adaptive coping as a buffer to the relationship between personality styles and psychopathology
- Effects of cultural and social mediators on adaptive coping strategies, and psychopathology in European and Asian children and adolescents

As mentioned before this dissertational thesis was based on the conceptual model by Grant et al. (2003) and theoretical background provided by research findings of Hampel et al. (2005). In order to test the model the impact of daily hassles (minor stressors) was chosen as the stressor variable because of the consideration that the specific cognitive and emotional quality of minor stressors defines the impact and that the later is associated with maladaptation.

Personality variables and psychosocial factors possibly conceived of as moderating factors that amplify or buffer against these effects of the stressors. Individual attributes of the adolescent play an important role for the development of internalizing problems and externalizing problems. Therefore, Big Five personality test was chosen to

measure the trait variables and their possible interaction with coping, stress, and psychopathology.

Secondly to date there have been few studies investigating the possible relationship of buffering effects of personality styles and coping strategies on psychopathology at cross-cultural level and it is highly important to explore and investigate the relationship and effect of stress, maladaptive and adaptive coping strategies, and psychopathology among different ethnic groups age and genders. In addition, to generalize the findings on various community samples of adolescents and children and to recommend psycho-educational prevention programs (for internalisation and externalisation symptoms) in high risk youth.

To summarize the focus of present study is not to explore all the protective and causal factors of psychopathology in children and adolescent, rather it is aimed to explore the effects of coping strategies and personality styles on adolescent and children psychopathology (in European and Asian children and adolescents). As coping plays an important role to moderate the daily life stress, examination of adapted coping strategies along with personality traits are central to understand psychological distress and psychopathology in children and adolescents. Age and gender differences also affect the course of individual adjustment to stress, so taking into account the above-mentioned factors this research aimed to find out the role of adaptive and maladaptive coping strategies for the relation of stress and psychopathology. In this context, Grant et al. (2003) model was adapted and tested and results were analyzed to answer the research questions.

3.1. Differential hypotheses

<u>Primary issue: Coping with stress (SVF-KJ)</u>

Children and adolescents have directed and non-directed main and interaction effects on coping strategies depending upon gender, grade, and nationality.

Methodology

Hypotheses:

* Asian children and adolescent employ more maladaptive coping strategies as compared to Europeans.
* European and Asian female children and adolescents employ more maladaptive coping strategies as compared to males.
* Grade 6/7 children and adolescents employ more maladaptive coping strategies as compared to grade 8/9.

Perceived stress (SR academic and social stress).

Are there gender, grade, and nationailty differences for perceived stress in children and adolescents?

Hypotheses

* Asian children and adolescent perceive more social and academic stress as compared to Europeans.
* European and Asian female children and adolescent perceive more social and academic stress as compared to males.
* Grade 6/7 children and adolescents perceive more social and academic stress as compared to grade 8/9.

Psychological and behavioral problems (internalisation and externalisation).

Are there gender, grade, and nationailty differences for intenalisation and externalisation in children and adolescents?

Methodology

Hypotheses

* Asian children and adolescent manifest more internalisation and externalisation as compared to Europeans

* European and Asian female children and adolescent manifest more internalisation and externalisation as compared to males.

* Grade 6/7 children and adolescents manifest more internalisation and externalisation as compared to grade 8/9.

Personality traits(FFFK-S)

Are there gender, grade, and nationality differences among children and adolescents regarding personality traits?

Hypotheses

* Asian children and adolescent have non-directed main effects of Personality traits as compared to Europeans.

* European and Asian female children and adolescent have non-directed main effects of Personality tarits as compared to males.

* Grade 6/7 children and adolescents show non-directed main effects of Personality traits as compared to grade 8/9.

3.2: Secondary issue: Model testing

Stressors contribute to psychopathology: Model testing. How do perceived stress and coping strategies operate together to explain the association between perceived stress and psychopathology?

Hypotheses

- Perceived stress (daily hassles), along with nationality, personality styles and employed coping strategies are significant predictors of psychopathology (internalisation and externalisation) in children and adolescence.

- Adapted coping strategies and personality styles mediate and moderate the outcome of psychopathology due to perceived stress in both ethnic groups.

4. Methodology

In the following section, the experimental design of the study is presented. Firstly the independent variables and sample characteristics are reviewed, followed by a description of constructs that constitute the dependent variables and their operational definitions. Lastly, the experimental procedure and statistical analysis of the collected data are explained.

4.1 Experimental design

The present study based on a multivariate three factor experimental design (see Table 4.1).

Table4.1. Experimental design with cell division presentation

		Nationality				
		Europeans		Asians		
	Sex	*females*	*males*	*females*	*males*	Σ
Grade	6/7	42	58	42	27	**169**
	8/9	47	34	32	30	**143**
	Σ	**89**	**92**	**74**	**57**	**312**

Independent variables:

- The first independent factor was nationality and divided into European (German and Austrian) and Asian (Pakistani) groups.
- The second factor grade was further divided into 6/7 and 8/9 grade.
- The third factor gender further categorized into males and females.

Inclusion criteria:

The German and Austrian data already collected immediately before the present study commenced participants evaluation based on gender, age, language proficiency, nationality, and socioeconomic status.

The following factors were taken into consideration as participation criteria for the Asian sub-sample:

- they were students aged between 10 to 15 attending a school in Pakistan
- they could understand and communicate in English
- they were not in known critical life events
- their parents/caregivers had agreed that they could participate and had signed and returned the consent forms; and
- they themselves had agreed to take part, had communicated that they understood the information about the research, and had signed and returned the assent form

4.2. Sample

The sample was originally comprised of 900 schoolchildren and adolescents from Germany, Austria, and Pakistan. All participants voluntarily took part in the present study.

The German and Austrian group data (collected in two studies N=541) was compared with Pakistani group data collected from various schools of Lahore city). A Chi square analysis to Pearson (see Table 4.2a and 4.2b) for achieving equal distribution of the sum of the edge cells distribution was conducted.

1) 312 participants were included in the analysis.

2) The selection criterion based on SES (socioeconomic status of the participants).

Table 4.2a. SES * Nationality Cross table.

		Nationality		Σ
		Europeans	Asians	N
SES	Low=1	51	10	61
	Middle=2	**181**	**131**	**312**
	High=3	173	38	211
total		405	179	584

The selected data comprised of N=312 a total of 181 European and 131 Asian males and females students was included for the final evaluation. The sample consisted of 169 students from graded 6/7 and 143 from grade 8/9 respectively A total of 163 females and 149 males provide a uniform distribution of the edge sum cells by Chi square (χ^2 (ses) = 40.56, p< .001, N=584. A uniform distribution of the edge sum cells by Chi square included

1) Sex*grade (χ^2 (1) =0.95, p=.329

2) Sex*nationality (χ^2 (1) =1.63, p=.202

3) Grade *nationality (χ^2 (1) =0.20, p=.652

Table 4.2b. Sex* nationality*grade Cross table.

Grade 6/7 vs. 8/9			**Nationality**		**total**
			European	**Asian**	
6/7	Gender	females	42	42	84
		males	58	27	85
	Sum		**100**	**69**	**169**
8/9	Gender	females	47	32	79
		males	34	30	64
	Sum		**81**	**62**	**143**
	Total		**181**	**131**	**N=312**

The selected data comprised of N=312 a total of 181 European and 131 Asian males and females students for the final evaluation. The sample consisted of 169 students from graded 6/7 and 143 from grade 8/9 respectively. A total of 163 females and 149 males provide a uniform distribution of the edge sum cells by Chi square.

For grade 6/7 N=42 European females and N=58 males were included, similarly N=42 Asian females and N=27 males were included for the same grade. In addition for grade 8/9 European females N=47, males N=34 and Asian females N=32, males N=30 were included (χ^2 (grade* gender*nationality) =34.30, p< .01, N=312.

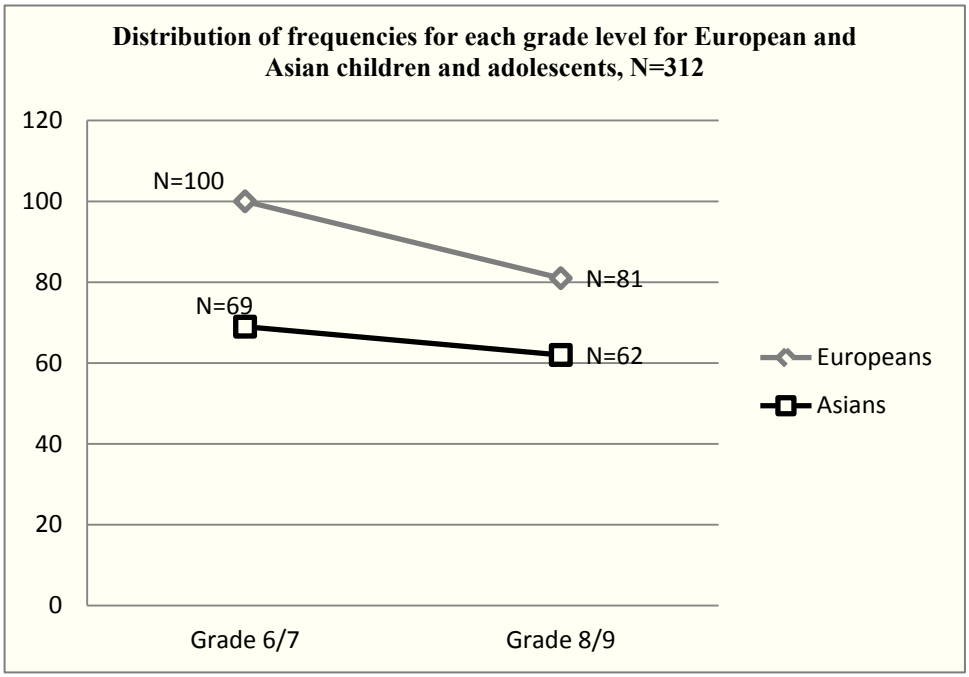

Figure.4.1. Showing distribution of frequencies between groups within each grade level.

4.3. Demographic data of parents

Age range:

Parent's data collected by Socio-demographic questionnaire, the mean age of fathers was 44 to 50 and mothers 41 to 45 for SES (2)

Table 4.3a Showing Means and SD for the age range of Parents

	N	Minimum	Maximum	Sum	Mean	SD	Variance
Age of father	281	31	66	12503	44,49	6,982	48,751
Age of mother	307	29	62	12614	41,09	5,725	32,780

Profession of parents: Table 4.3b and 4.3c showed profession of parents as collected by Socio-demographic questionnaire.

Table 4.3b Showing Number and percentage, for Father, s profession

	Number	Percentage
Farmer	6	1.9
Employed	75	24.0
Staff	20	6.4
Worker (unskilled)	12	3.8
Skilled worker	65	20.8
Self employed	23	7.4
Self employed business	63	20.2
Houseman	1	0.3
Retired	3	1.0
Jobless	7	2.2
Others:	7	2.2
Total	282	90.4
Missing	30	9.6
total	312	100.0

Table 4.3c Showing number and percentage for mother's profession

	Number	Percentage
Trainee	1	0.3
Professional trainig	3	1.0
Farmer	1	0.3
Employed	48	15.4
Staff	7	2.2
Skilled worker	3	1.0
Self employed	4	1.3
Self employed business	11	3.5
Haouse wife	188	60.3
Retired	3	1.0
Jobless	19	6.1
Non professional	2	0.6
others	17	5.4
Total	307	98.4
Missing	5	1.6
total	312	100.0

4.4 Interaction variables

Table 4.4 shows interaction variables, three types of coping styles (emotion-focused, problem-focused, and maladaptive coping) and social and interpersonal stressors. Along with measurement, tools the two proposed comparison groups were assessed based on perceived stress, coping strategies, personality traits and psychopathology (see table 4.4)

Table 4.4 Interaction variables and measurement

Interaction variables	Measurement tools (Questionnaires)
Stressors: Social Interpersonal Academic	Perceived stress (Hampel et al., 2001)
Coping styles: Problem-focused Emotion-focused Maladaptive coping	The German Coping Questionnaire for children and adolescents (*Stressverarbeitungsfragebogen für Kinder und Jugendliche*, SVF-KJ) by Hampel et al. (2001)
Personality traits: Extraversion Agreeableness Conscientiousness Neuroticism Openness	Personality trait questionnaire FFFK-S (Adapted version of Big Five personality theory, Painsi, 2003)
Psychopathology: Emotional and Behavioral problems	The German and English version of the Reynolds´ Adolescent Adjustment Screening Inventory RAASI (Reynold, 2001) The German questionnaire for psychopathology (*Screening psychischer Störungen im Jugendalter,* SPS-J by Hampel and Petermann, 2005c).

4.5. Measures and tools

4.5.1. Perceived stress

Eight items assess stress related to interpersonal stressors. Children and adolescents asked to report how strongly they feel bothered by malicious gossip and by arguments with parents and a friend. Perceived stress was evaluated on a 5-point Likert scale, ranging from "*not at all*" (0) to "*strongly*" (4).

Table 4.5.1. The Stress questionnaire Subscales as used in the current study

Stress response subscales	Item examples
Academic stress (4i)	I have to do too much homework
	I cannot follow the lesson at school.
Social stress (4i)	I guess, another child or adolescent makes malicious remarks about me
	I have an argument with my parents

The children and adolescent has to imagine the given stressful situation and report how much pressure they feel regarding the situation.

This situation	***...bothers me***				
I have to write a difficult exam!	○	○	○	○	○
	Not at all	a little	somewhat	strongly	very strongly

Figure 4.2: Showed the item example of the perceived stress scale with response options.

4.5.2. Coping strategies:

The German Coping Questionnaire for children and adolescents (*Stressverarbeitungsfragebogen für Kinder und Jugendliche*, SVF-KJ) by Hampel et al. (2001) is used to assess coping strategies. Coping responses are answered in relation to two individually generated common stressors: an interpersonal stress situation exemplary described by a conflict with peers or malicious gossip expressed by peers, and an academic stress situation exemplified by taking a difficult exam or dealing with too much homework. Nine different coping strategies can be assessed, represented by four items each, resulting in 36 different coping responses for each stress domain. Emotion-focused and problem-focused coping strategies measured by the SVF-KJ. Emotion-focused coping comprised of minimization (e.g., I say to myself: It is not serious) and distraction/recreation (e.g., I am playing something). Problem-focused coping consisted of situation control (e.g., I try to figure out, what the problem

is), positive self-instructions (e.g., I say to myself: I can make it), and social support (e.g., I am asking for somebody's advice). In addition, 4 subtests represented the maladaptive coping style, composed by passive avoidance (e.g., I'd like to stay in bed), rumination (e.g., the situation rushes into my mind over and over again), resignation (e.g., I want to give up), and aggression (e.g., I'm getting a bad temper). Participants has to chose on a 5-point scale (0 = *not at all,* 4 = *in any case*) the likelihood for each coping response. Figure 4.3.showed the structure of SVF-KJ.

Structural design of SVF-KJ by Hampel et al, (2001).

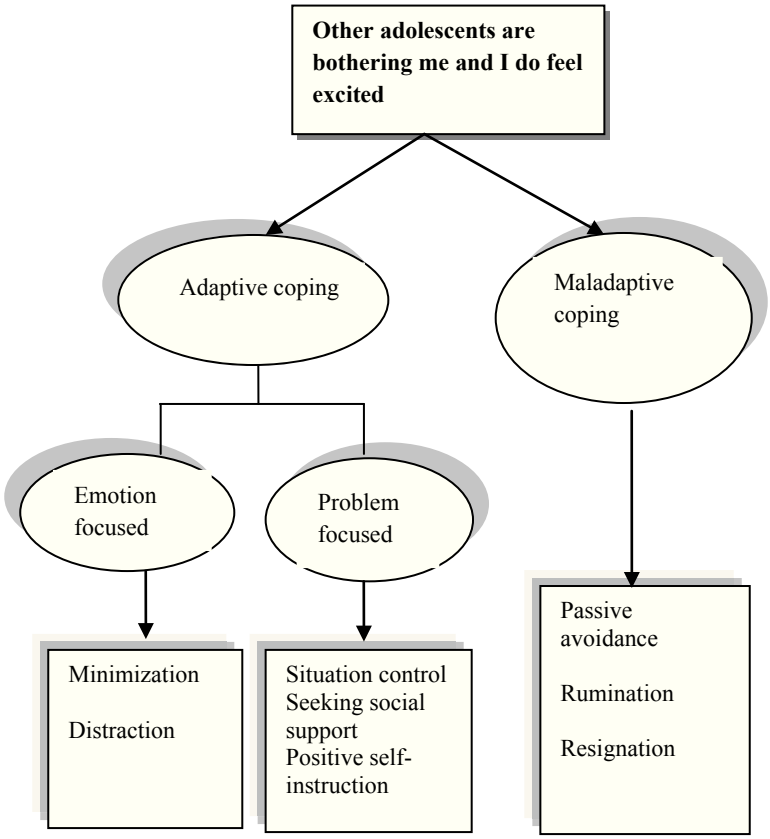

Figure 4.3: Structure of the coping questionnaire for children and adolescents (SVF-KJ; Modified from Hampel et al, 2001, p. 29)

As mentioned before Hampel et al. (2001) developed and validate SVF-KJ for the assessment of coping strategies in German and Austrian children and adolescence aged between 8 and 13 years. Five stress reducing and four stress enhancing strategies were measured, each represented by four items. Items assessed in conjunction with a fictitious school achievement-related and a social stressful encounter. The total item pool used by Hampel et al. contained 72 coping items. A total of n = 1123 pupils were

examined to evaluate standardized measures and psychometric properties. Item and scale analyses revealed sufficient internal consistencies and retest reliabilities, respectively. Item assignment to subscales confirmed by principal component analyses. In addition, the nine subscales were assigned to three components by factor analyses: emotion-focused coping (minimization, distraction), problem-focused coping (situation control, positive self-instructions, need of social support), and maladaptive coping (passive avoidance tendencies, worrying, resignation, aggression).

Analyses of correlations showed reasonable discriminated associations of subscales. Additionally criterion-oriented validity supported by preliminary results. Thus, the results by Hampel et al. (2001) suggested that the SVF-KJ was a reliable and valid self-report measure of coping The German version was used for German and Austrian children and adolescence,. For Asian participants an English version was administered also developed by Hampel and Peterman (2005).

Table 4.5.2.The SVF-KJ Subscales as used in the Current Study

Meta-strategy	Coping style/subscales	Description
Problem-focused coping	Situation control	e.g., I'm making a plan to fix the problem
	Positive self-instruction	e.g., I say to myself: I'll get that under control
	Social support	e.g., I'm asking somebody, what to do
Emotion-focused coping	Minimization	e.g., I say to myself: It isn't as bad as all that
	Distraction/recreation	e.g., I'm reading something, that's fun)
Maladaptive coping	Passive avoidance	e.g., I'd like to stay away from the situation
	Rumination	.g., I keep on worrying and thinking about the situation
	Resignation	e.g., I keep in mind: Whatever I do is really useless
	Aggression	e.g., I start quarrelling with somebody, who bumped into me

4.5.2.1. Operational definitions of SVF-KJ subscales:

Emotion-Focused Coping: Emotion-focused coping is an effort to manage or regulate stress related emotional responses.

Minimization: describes cognitive efforts to detach one's self and to minimize the significance of the situation.

Distraction*:* describes wishful thinking and behavioral efforts to escape or avoid the problem.

Problem-focused coping: Problem-focused coping involves efforts to actively change the person-environment relationship that is causing stress.

Situation control: describes deliberate problem-focused efforts to alter the situation (coupled with an analytic approach to solving the problem.

Positive self-instructions: describes efforts to create positive meaning by focusing on personal growth.

Social support*:* describes efforts to seek informational support, tangible support and emotional support.

Maladaptive coping:

Passive avoidance/Rumination: refers to any action designed to prevent the occurrence of or to stop feeling an uncomfortable emotion, such as fear, sadness, or shame. For example, a person may try to avoid an emotion with substances or dissociation.

Resignation: Refers to giving up, or withdrawing effort from, the attempt to attain the goal with which the stressor is interfering accepting the fact that the stressful event has occurred and is real

Aggression: Refers to an increased awareness of one's emotional distress, and a concomitant tendency to ventilate or discharge those feelings.

4.5.3. Reynolds´ Adolescent Adjustment Screening Inventory (Emotional and behavioral problems, (RAASI)

The German and English versions of the Reynolds´ Adolescent Adjustment Screening Inventory (RAASI) were administered to assess self-reported emotional and behavioral problems (Hampel & Petermann, 2005c; Reynolds, 2001). The RAASI consists of the following 4 subscales represented by 32 items: antisocial behavior (e.g., I broke the rules at school or at home), anger control problems (e.g., I lost my temper), emotional distress (e.g., I felt depressed or sad), and negative self (e.g., I felt good about myself). In accordance to Reynolds, all items measure positive self but the raw scores are inverted for further statistical analyses. Adolescents indicate the frequency of each behavior or mood during the last 6 months on a 3-point Likert scale (0 = *never or almost never,* 1 = *sometimes*, 2 = *nearly all the time)*. A good reliability and validity has been demonstrated for the RAASI (Reynolds, 2001).

RAASI have four scales: Antisocial Behavior (AB), Anger Control Problems (AC), Emotional Distress (ED), and Positive Self (PS). It also yields a Total Adjustment score (AdjT). The raw score to *T*-score conversions for total standardization sample, gender, age group, and gender-by-age group was possible. Reliability coefficients range from .81-.88 for the AB, AC, and ED scales, .71 for PS and .91 for adjusted total score. Test-retest reliability ranges from .83-.89.RAASI have moderate to strong correlations between RAASI scales and domain-related APS and MMPI scales.

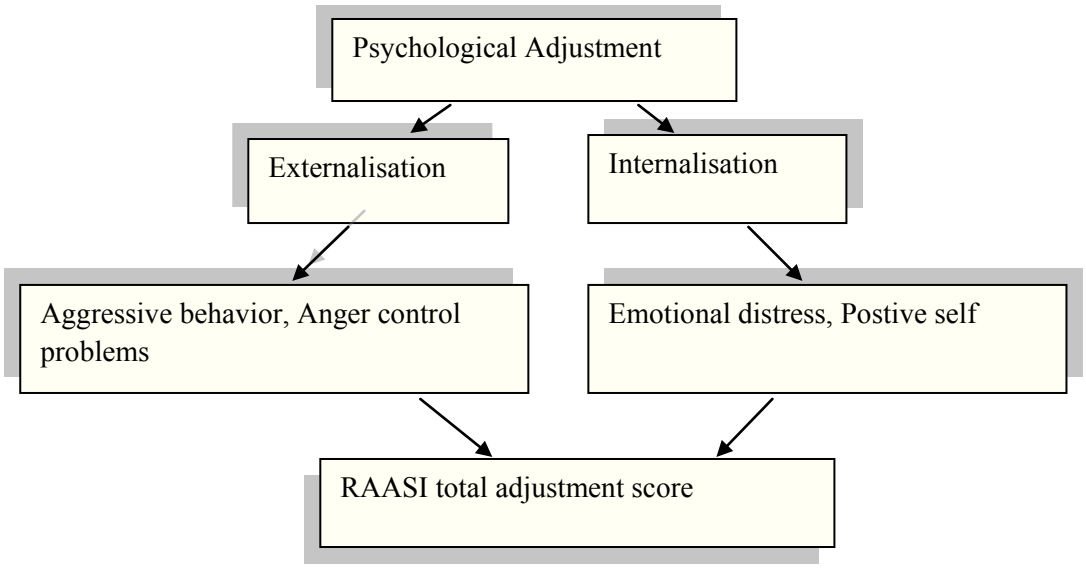

Figure 4.4 an overview of RAASI subscales (after Reynolds, 2000 p.5)

Table 4.5.3.The RASSI *Subscales as used in the Current Study*

Meta-strategy/Domain	Subscales	Description
Externalisation	Antisocial behavior	I used drugs or alcohol I broke the rules at school or at home
	Anger control problem	I argued with my teachers or parents I lost my temper
Internalisation	Emotional distress	I was very lonely I felt nervous
	Negative self	I felt good about myself I felt comfortable meeting new people

4.5.3.1. Operational definitions of RAASI subscales

Aggressive/antisocial behavior:

This scale included Alcohol and drug abuse or rule violations and problems at home, at school or at work.

Anger control problems:

Problematic behaviors and anger resulting from practices that are directed against others such as to lose temper or dispute with parents or teachers.

Emotional distress:

The items capture negative emotional states such as anxiety, loneliness, sadness, and worries about the future. In addition, somatic symptoms such as difficulty in concentrating and falling asleep can be determined.

Positive self: It includes aspects of self-consciousness and social behavior.

4.5.4 Personality styles

Personality traits measured by FFFK-S personality trait questionnaire (Painsi, 2003). The 54-item short version of the California Child Q-Set was adapted into German (Göttert & Asendorpf, 1989, cited after Asendorpf & Van Aken, 2003), provided a Q-sort description of the child according to a fixed, nine-point distribution, ranging from 'extremely uncharacteristic' to 'extremely characteristic'. The Big Five scale comprised of the following traits: extraversion, neuroticism, agreeableness, conscientiousness, and openness.

Table4.5.4. Hierarchical Structure of Personality Traits Asendorpf & van Aken (2002; modified by Painsi, 2003)

Domain scale	Description
Neuroticism/Emotional stability (5i)	Anxiety, Angry Hostility, Depression, Self-Conscientiousness, Impulsiveness, Vulnerability
Extraversion (5i)	Warmth, Gregariousness, Assertiveness, Activity, Excitement Seeking, Positive Emotions
Agreeableness/Social compatibility (5i)	Trust, Straightforwardness, Altruism, Compliance, Modesty, Tender-Mindedness
Conscientiousness (5i)	Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, Deliberation
Openness/Culture (5i)	Fantasy, Aesthetics, Feelings, Actions, Ideas, Values

.

Unsociable	**1**	**2**	**3**	**4**	**5**	***Sociable***

Figure 4.5: Item example from subscale Extraversion from FFFK-S with response options.

4.6. Procedure

Participation from students was solicited during regular class sessions. Students were informed about the nature and purpose of the study. Those students who expressed interest in participating were given a consent form. Participants were queried as to whether or not they understood or had questions regarding their participation in the study. Participants were asked to sign the consent form, which served as an indication of their voluntary participation in the study. Parents of the participants signed another consent form prior to the study. All participants were group administered the same questionnaire or administered the questionnaire at a specially designated time by the

researcher. The questionnaire took approximately 35-45 minutes to complete. At the end of the questionnaire, participants were debriefed as to the overall purpose of the study.The German and Austrian data was already collected in two studies and used to compare with Asian sample.

Trained undergraduate students of psychology carried out administration of questionnaires. For German and Austrian participants all questionnaires were developed and administered in German language

4.7. Missing Values

Individual missing values were replaced by the formation of individual mean values values. It was made for the missing item, from the average of the remaining items of the same subtests. Responses with more than one missing item were excluded. Overalll, the number of individual missing values, was not so high.

4.8. Statistical Analysis

The collected data was entered and analyzed with SPSS 12.0, for Graphics and figures MS office and Excel 2007 were used.

4.8.1. Methodological evaluation

In order to determine the internal consistencies of the individual subtests of the SR-,RAASI, the SVF-KJ and FFFK-S Reliability analysis (Cronbach´s Àlpha) were performed The factorial structure of each inventory was examined by principal component analysis with Varimax rotation (see Appendix D). Furthermore, correlations (Product moment) between the subtest and secondary tests were calculated.

4.8.2. Testing the differential hypothses

4.8.2.1. Descriptive analysis

The Means, SD, Standard Errors of the means, variance, minimum, maximum, skewness, and kurtosis for males' and females of both nationalities and grades were calculated. The relevant tables can be seen from Appendix D.

Testing the primary hypotheses. In order to test the relationship between the subtests and scales Pearson product moment correlation was calculated, the values reached between ($r \geq .40$ and $.60$).

The influences of nationality, grade, and gender on coping styles, perceived stress, and the expression of emotional and behavioral problems and aspects of personality were examined based on parametric methods. The analysis was performed by means of MANOVA followed by univariate analysis at the level of the subtests.

4.8.2.2. Research questions

The 2*2*2 multivariate analysis of variance MANOVA was conducted to determine the effect of the Gender, grade (age) and nationality on the dependent variables social and academic stress response coping strategies, FFFK, and RAASI.

A significant Box's M indicated that the homogeneity of variance-covariance matrix assumption was violated. Which means that there were significant differences among the interaction effects of dependent variable with IV Gender *grade*nationality in the covariate matrices across levels of the IV that increased the possibility of Type I error, but considering the large sample size and making a smaller error region with a confidence level .013 it was ok to do further analysis. On the other hand taking Wilks'Δ (proved the most robust test for predicting variance) no outliers were evident and MANOVA considered an appropriate analysis technique. Analyses of variance (ANOVA) for each dependent variable were conducted as follow-up tests to the MANOVA (Levenes test was also found significant but taking into account the unequal and large size of cells further analysis was carried out).

4.8.2.3. Model testing

The systematic iterative construction of a regression model that involves automatic selection of independent variables was used for testing the proposed model. Stepwise regression can be achieved either by trying out one independent variable at a time and including it in the regression model if it is statistically significant, or by including all potential independent variables in the model and eliminating those that are not statistically significant, or by a combination of both methods. Stepwise regression designed to find the most parsimonious set of predictors that are most effective in predicting the dependent variable.

Variables added to the regression equation one at a time, using the statistical criterion of maximizing the R^2 of the included variables. The process of adding more variables stops when all of the available variables have been included or when it is not possible to make a statistically significant improvement in R^2 using any of the variables not yet included.

Since variables will not be added to the regression equation unless they make a statistically significant addition to the analysis, all of the independent variable selected for inclusion will have a statistically significant relationship to the dependent variable. Each time SPSS includes or removes a variable from the analysis, SPSS considers it a new step or model, i.e. there will be one model and result for each variable included in the analysis.

SPSS provides a table of variables included in the analysis and a table of variables excluded from the analysis. It is possible that none of the variables will be included. It is possible that all of the variables will be included.The order of entry of the variables can be used as a measure of relative importance. Once a variable is included, its interpretation in stepwise regression is the same, as it would be using other methods for including regression variables. The level of significance for the analysis is included in the specifications for the statistical analysis. While one use 0.05 as the level of significance for a problem, a different level of significance can be chosen in the SPSS Options dialog box.

The preferred sample size requirement is larger for stepwise regression, i.e. 50 x the number of independent variables, stepwise procedures are notorious for over-fitting the sample to the detriment of generalizability. While multicollinearity for all variables can be examined, it is only a problem for the variables not included in the analysis. If a variable is included in the stepwise analysis, it will not have a collinear relationship.

Table 4.9. An overview of the measuring instruments, ranges and the statistical analysis

Area	Instrument	Statistical Evaluation
Primary Hypotheses		
Coping strategies (9 Subtests)	**SVF-KJ**	▪ Descriptive analysis ▪ Three-factor analysis of variance.
Perceived stress (8 Items)	**SR**	▪ Descriptive analysis ▪ Three-factor analysis of variance.
Psychopathology (4 Subtests)	**RAASI**	▪ Descriptive analysis ▪ Three-factor analysis of variance.
Personality traits (5 Subtests)	**FFFK-S**	▪ Descriptive analysis ▪ three-factor Analysis of Variance
Testing the general conceptual model (Grant et al, 2003)	**SR,SVF-KJ, RAASI, FFFK-S**	▪ Hierarchal regression stepwise

5. Results

The results section addresses the following topics in order.

1) Reliability, Factorial validity, and correlation analysis of each test
2) Multivariate Analysis depending on gender, grade, and nationality differences for coping strategies
3) Multivariate Analysis depending on gender, grade, and nationality differences for perceived stress (social and academic) among European and Asian children and adolescence
4) Multivariate Analysis depending on gender, grade, and nationality differences for outcome of psychopathology (internalisation and externalisation)
5) Multivariate Analysis depending on gender, grade, and nationality differences for FFFK-S personality styles
6) Model testing: Regression Analysis of psychopathology outcome (internalisation and externalisation) with predictors perceived stress, coping strategies, gender, grade, and nationality. Effect of adapted coping strategies on stress (daily hassles), internalisation and externalisation (mediating and moderating effects).which explores the relative association of each form of variable with each type of outcome.

All statistical analyses were conducted using SPSS 12.0.

5.1. Methodological evaluation

5.1.1. Descriptive statistics

For daily hassles (Social and Academic stress response) coping styles (problem-focused coping, emotion-focused coping, maladaptive coping) personality Social compatibility, Extraversion, Conscientiousness) and psychopathology (internalisation, externalisation) variables for both ethnic groups (European and Asians) n=312 are shown in Table 1(see Appedice B).

Results

The comparison of Means and SD showed that Asian group scored significantly higher for Social stress, internalisation, externalisation, and use of coping strategies like Distraction, Minimization and Situation control. Over all comparison for personality traits showed that European children and adolescents showed significantly higher personality traits like Extraversion, Emotional stability and Conscientiousness as compared to Asians, however variance analysis for age, gender and nationality interaction however that Asian children scored significantly higher for the above mentioned traits as compared to European group.

5.1.2 Reliability and validity of SVF-KJ Coping scale.

The Coping scale SVF-KJ found to have Cronbach alpha means for Emotion-focused coping strategy, Minimization and Distraction= .84, N=8 items. For Problem-focused coping Situation control, Positive self-instructions, Social support =.92. For maladaptive coping Passive avoidance, Rumination, Resignation and aggression =.87. The reliability level for each individual coping strategy ranges from .73 to, 91 SVF-KJ by Hampel.

Table5.1. Internal consistency for the nine subtests SVF-KJ for perceived stress (N = 312)

Subscales	α
Minimization (4i)	.84
Distraction (4i)	.84
Situation control (4i)	.92
Positive self-instruction (4i)	.92
Social support seeking (4i)	.92
Passive avoidance (4i)	.87
Rumination (4i)	.87
Resignation (4i)	.87
Aggression (4i)	.87

Note (*) The number in brackets represent number of items.

Results

Table5.2. VARIMAX Rotated loading matrix for SVF-J for Itemlevels with α ≥.40

Item	F1	F2	F3	F4	F5	F6	F7	h²	a²/ h²
dis 1								.61	.00
dis 2	.41	**.55**						.52	.58
dis 3							**.71**	.67	.75
dis 4		**.54**						.53	.55
pav1						**.64**		.57	.72
pav 2						**.73**		.68	.78
pav 3						**.62**		.55	.69
pav 4						**.68**		.68	.68
stc1	**.49**							.47	.51
stc 2	**.55**							.58	.52
stc 3	**.55**							.65	.46
stc 4	**.52**							.61	.44
min 1		**.70**						.60	.81
min 2		**.62**						.69	.55
min 3		**.77**						.68	.87
min 4		**.62**						.62	.62
res 1			**.75**					.59	.95
res 2			**.61**					.54	.68
res 3			**.74**					.65	.84
res 4			**.74**					.64	.85
pos 1	**.70**	.46						.63	.77
pos 2			-.40					.62	.25
pos 3	**.70**	.46						.61	.80
pos 4	.65							.64	.63
agg 1					**.66**			.51	.85
agg 2				.42	**.56**			.59	.53
agg 3					**.66**			.59	.73
agg 4					**.66**			.58	.75
rum 1				**.58**				.50	.67
rum 2				**.77**				.66	.89
rum 3				**.58**				.53	.63
rum 4				**.74**				.66	.82
sos 1	**.74**							.67	.81
sos 2	**.78**							.73	.83
sos 3	**.77**							.72	.82
sos 4	**.84**							.72	.98
Eigen-values (*)	10.97	3.52	2.79	1.39	1.31	1.23	1.05		
Variance (%) (*)	14.43	11.53	9.01	8.61	7.99	6.87	3.28	61.67	

Note: (*) Eigen values und Variance for the unrotated Loading matrix; Loadings ≥.40 und <.50 are underlined, Loadings ≥.50 are bold highlighted; **F**...Factor; **h²**=Communalities; **a²/h²**...relative proportion of loaded factors on communalities, only the significant values are added.

Results

Factorial structure:

Item level: The principle component analysis was performed to confirm the structure of nine subtests of the SVF-KJ with 36 items.It resulted in a /-factor solution (Appendix D).However it get support by the scree plot magnitude of factor loadings.(see table 4.2). It achieved a total variance of 61.67%. The first factor loaded all four items of Problem focuesd strategies Situation control, seeking social support and two items of Positive self-instructions; it also includes one item of one item of Distraction.

The second factor included all four items of Minimization and two items of Distraction (emotion-focused coping). On the third factor all four items of maladaptive coping strategy Resignation was loaded with negative loading of one item of Positive self-instructions.On the fourt factor one item of maladaptive coping stragy aggression with four items of Rumination was loaded. The fifth factor inlcluded all four items of Aggression. The sixth factor loaded Passive avoidance and seventh one item of Distraction. Thus, the decision of taking seven factors was verified and supported by the loadings.

Subtestlevel

The principle component matrix with Varimax rotation on the nine subtests extracted a two factors solution with a toatl variance of 63.46 %.(see table 5.3). The three subtest of problem-focused coping strategy extract the first factor including Minimization and Distraction.The second factor extracted maladaptive coping strategies Pasive avoidance, Rumination, Resignation, Aggression and load a homogenous factor.The structure of the subtest was clearly confirmed .

Table5.3.VARIMAX-rotated Loadingmatrix for SVF-KJ on the Subtestlevels with α ≥.40

Subtest	F1	F2	h²	a_1^2/h^2	a_2^2/h^2
min	**.76**		.63	.91	.00
dis	**.85**		.72	1.0	.00
stc	**.73**		.63	.84	.00
pos	**.68**	**-.51**	.73	.63	-.12
sub	**.83**		.71	.97	.93
pav		**.78**	.63	.00	.96
rum		**.56**	.39	.00	.80
res		**.80**	.65	.00	.98
agg		**.69**	.60	.00	.79
Eigenvalues(*)	4.31	1.40			
Variance (%)(*)	47.72	15.72	63.46		

Note: (*) Eigenvales and Variance for unrotated Loadingmatrix, Loadings ≥ .50 bold highlighted; **F**...Factor; **h²**...Communalities; **a²/h²**...relative proportion of loadings n the communalities; other Eigenvalues: λ_4 = .84, λ_5 = .64, λ6 = .57;

Intercorrelations Table 4.4 illustrates the correlation matrix for the secondary and subtest of SVF-KJ for Perceived stress. The subtest situation control, positive self-instructions, and seeking social support were positively correlated with distraction, and minimization. There were no positive correlations with the nagative coping strategies. Overall, these correlations were pronounced and no need to question the discriminant validity of the test.

Table 5.4. Intercorrelationsmatrix for subtests and secondarytests SVF-KJ

	stc	min	res	pos	agg	rum	sub	dis	res	prb	emo	nco
stc	1											
min	**.487**	1										
res	-.330	-.171	1									
pos	**.754**	**.580**	-.436	1								
agg	-.432	-.379	**.430**	-.545	1							
rum	-.140	-.458	.291	-.314	**.437**	1						
sub	**.639**	**.525**	-.141	**.591**	-.383	-.307	1					
dis	**.491**	**.634**	-.047	**.487**	-.306	-.333	**.624**	1				
pav	-.295	-.312	**.459**	-.456	.473	.419	-.265	-.171	1			
prb	**.897**	**.605**	-.336	**.881**	-.513	-.293	**.860**	**.613**	-.383	1		
emo	**.541**	**.909**	-.122	**.591**	-.380	-.439	**.634**	**.899**	-.269	**.673**	1	
nco	-.396	-.443	**.714**	-.581	**.777**	**.722**	-.367	-.288	**.790**	-.507	-.407	1

Note: Values between r ≥.40 and r <.50 are underlined; Values with r ≥.50 are bold highlighted; Abbreviations of the subtest **EMO.**..emotion focuesd Strategies; **PRB**...problem-focused Strategies; **NCO**...negative coping;

5.1.3. Reliability of Stress response questionnaire for the present study:

The stress response questionnaire found to have good to acceptable reliability level. For Social stress N= 4 items Cronbach alpaha =.97 and for academic stress .78. The reliability level was calculated for the whole sample *N*=312, German, Austrian and Asian groups.

Table5.5. Internal consistency for the eight items SR for perceived stress (N = 312)

Subscales	α
Social stress (4i)	.97
Academic stress (4i)	.78

Note (*) The number in brackets represent number of items.

Factorial structure:

The calculation of factor analysis of items 1-8 showed that the scale was not uni-dimensional.Thus for hypothses testing differces in indidvidual items would be appropriate

There was only one factor extracted, It is not possible to rotate the varimax matrix.

5.1.4. Reliability of RAASI for the present study:

The Reynolds´ Adolescent Adjustment Screening Inventory (RAASI) found to have good to acceptable reliability level for the present study .The Cronbach alpha for Aggressive behavior N=8 items was .72. For Anger control problems =.70, Emotional distress = .82 and for Positive self =.78. Total Externalisation=.80, total Internalisation=.79. The total reliability for RAASI was .85 for the whole sample. The reliability analysis showed also good inter-item reliability.

Table5.6. Internal consistency for the 4 subtests RAASI (N = 312)

Subscales	α
Antisocial behavior (8i)	.72
Anger control (8i)	.70
Emotional distress (10i)	.82
Positive self (6i)	.78
Externalisation (16i)	.80
Internalisation (16i)	.79

note (*) The number in brackets represent number of items.

Factorial structure:

Item level: The principle component analysis was performed to confirm the structure of four subtests of the RAASI with 32 items.It resulted in a 7-factor solution (Appendix D).However it get support by the scree plot magnitude of factor loadings.(see table 5.7). It achieved a total variance of 53.79%. The first factor loaded all items of Emotional distress except item 4 and 10. Factor 2 loaded the first five items of Positive self. Factor 3 included one item of Aggressive behavior and three items of Anger control problem. Factor 4 included 5 items of Aggressive behavior.On factor 5 one item each of Aggressive behavior and Emotional distress showed that the structure of this factor is not satisfactory. Facator 6 and 7 with AB and AC items loaded a partial factor for externalisation. The factorial validity of RAASI for the present data set was not found completely homogenous.

Results

Table5.7. VARIMAX Rotated loading matrix for RAASI for Itemlevels with α ≥.40

Item	F1	F2	F3	F4	F5	F6	F7	h²	a_1^2/h^2
AB 1				**.52**				.59	.45
AB 2						**.70**		.56	.87
AB 3			**.59**					.46	.75
AB 4				**.55**				.63	.48
AB 5				**.53**				.64	.43
AB 6				**.78**				.34	1.7
AB 8				**.69**	**.60**			.00	.69
AC 1						**.74**		.65	1.5
AC 2							**.49**	.45	.53
AC 3							**.58**	.47	.71
AC 4			**.51**					.43	.60
AC 6			**.67**					.57	.78
AC 7			**.71**					.52	.96
AC 8							**.65**	.57	.71
ED 1	**.58**							.40	.84
ED.2	**.61**							.49	.75
ED.3	**.61**							.00	.61
ED.5	**.66**							.45	.96
ED.6	**.62**							.51	.75
ED.7	**.54**							.53	.72
ED.8	**.66**							.00	.66
ED.9	**.57**							.55	.59
ED.10					**.67**			.66	.68
PS 1		**.56**						.51	.53
PS 2		**.76**						.63	.66
PS 3		**.75**						.66	.71
PS 4		**.52**						.53	.51
PS 5		**.80**						.60	.78
PS 6								.71	.71
Eigenvalues(*)	9.17	3.26	2.5	1.76	1.34	1.24	1.09		
Variance (%)(*)	18.66	10.20	7,90	5.49	4.20	3.88	3.43	53.79	

Note: (*) Eigen values und Variance for the unrotated Loading matrix; Loadings ≥.40 und <.50 are underlined, Loadings ≥.50 are bold highlighted; **F**...Factor; **h²**=Communalities; **a²/h²**...relative proportion of loaded factors on Communalities, only the significant values are added

Subtestlevel

The calculation of factor analysis of subtests showed that the scale was not uni-dimensional.Thus for hypothses testing differces in indidvidual items would be appropriate

There was only one factor extracted, it is not possible to rotate the varimax matrix.

Results

Intercorrelations Table 5.8 illustrates the correlation matrix for the secondry and subtest of RAASI for Perceived stress. The subtest Aggressive behavior, Anger control problems, Emotional distress, and Positive self were positively correlated with Internalisation and externalisation. There were positive correlations between both subtests. Overall, these correlations were pronounced and need to question the discriminant validity of the test.

Table5.8. Intercorrelationsmatrix for subtests and secondarytests RAASI

	EXT	INT	AB	AC	ED	PS
EXT	1					
INT	**,816**	1				
AB	**,869**	**,781**	1			
AC	**,436**	**,763**	**,459**	1		
ED	,150	**,529**	,227	,170	1	
PS	**,401**	**,857**	**,463**	**,819**	**,704**	1

Note: Values with r ≥.50 are bold highlighted; Abbreviations of the subtest **EXT**.Externalisation; **INT**.Internalisation.

5.1.5. Reliability of FFFK-S Big Five-personality trait questionnaire for the present study:

The reliability analysis for Big Five showed good to poor Cronbach alpha study. The Big Five scale Extraversion yielded acceptable reliability =.71, Social compatibility =.74, and Conscientiousness =.66 (still questionable). Emotional stability yielded low reliability Cronbach alpha =.54 and Culture =.64.

Table5.9. Internal consistency for the 5 subtests FFFK (N = 312)

Subscales	α
Extraversion (5i)	.71
Emotional Stability (5i)	.74
Social Compatibility(5i)	.66
Openness / Culture (5i)	.54
Conscientiousness (5i)	.64

note (*) The number in brackets represent number of items.

Factor analysis

The Principal components analysis with varimax rotation on the five subtests FFFK was able to extract a 7-factor solution with a total variance of 59.38%.

Results

In addition, as table 5.10 showed, the structure of the Primary tests could be confirmed. The first factor loaded Social compatibilty, Openness and Conscientiousness.

Table5.10. VARIMAX Rotated Loading matrix for FFFK-S for Itemlevels with α ≥.40

Item	F1	F2	F3	F4	F5	F6	F7	h²	a² / h²
extra 1						**.60**		.58	.36
extra 2		**.66**						.51	.89
extra 3				**.67**				.56	.68
extra 4		**.78**						. 68	.89
extra 5		**.74**						.71	.82
emst 1						**.71**		.63	.92
emst 2					**.63**			.54	.82
emst 3		**.59**						.57	.95
emst 4					**.72**			.56	.82
emst 5				**.62**				.63	.66
socom 1	**.66**							.65	.87
socom 2	**.52**	**.52**						.60	.73
socom 3	**.55**	**.46**						.58	.49
socom 4				**.68**				.66	.90
socom 5			**.71**					.54	.55
openness 1	**.51**							.68	.69
op 2							**.82**	.73	.70
op 3	**.54**							.61	.49
op 4				**.43**				.46	.59
op 5				**.52**	**.40**			.52	.80
cons 1	**.77**							.56	.63
cons 2			**.40**					.38	.57
cons 3	**.67**							.54	.47
cons 4			**.76**					.65	.64
cons 5	**.68**							.66	.71
Eigen-values (*)	5.12	3.21	1.66	1.60	1.17	1.05	1.01		
Variance (%)(*)	20.49	12.86	6.64	6.40	4.71	4.19	4.07	59.38	

Note: (*) Eigen values und Variance for the unrotated Loading matrix; Loadings ≥.40 und <.50 are underlined, Loadings ≥.50 are bold highlighted; **F**...Factor; **h²**=Communalities; **a²/h²**...relative proportion of loaded factors on Communalities, only the significant values are added.

The second factor extracted items 2, 4 and 5 Extraversion, item 3 Emotional stability, items 2, 3, Social compatibility. Factor 3 included social compatibility and conscientiuosness. Factor four loaded extraversion, emotional stability, social compatibility, and openness, similarly with one or two items each of these subscales factors 5, 6 and 7 were .extracted. The factorial validity of FFFK for the present data set was not found completely homogenous.

Subtestlevel

The calculation of factor analysis of subtests showed that the scale was not uni-dimensional. Thus for hypothses testing differences in indidvidual items would be

appropriate. There was only one factor extracted, it is not possible to rotate the varimax matrix.

Intercorrelations Table 5.11 illustrates the correlation matrix for the subtests of personality scale FFFK-S for Perceived stress. The subtest Social compatibility, Openness/culture and Conscientiuosness were positively correlated. There were positive correlations between both subtests. Overall, these correlations were pronounced and need to question the discriminant validity of the test.

Table5.11. Intercorrelationsmatrix for subtests FFFK_S

	Extr_n1	Est_n1	Soco_n1	Ope_n1	Con_n1
Extr_n1	1				
Est_n1	.109	1			
Soco_n1	**.530**	.048	1		
Ope_n1	**.530**	.059	**.607**	1	
Con_n1	.317	.020	**.599**	**.522**	1

Note: Values with r ≥.50 are bold highlighted; Abbreviations of the subtest **Ext**..Extraversion, **Est**.Emotional stability, **Soco**.Social compatibility, **Ope.** Openness, **Con**.Conscientiuosness.

5.2. Hypothesis based results

In the following section, research questions with hypotheses presented. The first part, explained multivariate analysis of variance with main effects and pair wise comparisons. The second part presented analysis of regression for the proposed model of psychopathology.

5.2.1. Multivariate analysis of gender, age, and nationality differences for SVF-J Coping strategies.

Multivariate analysis of variance (MANOVA) was performed to determine the effects of the three factors gender, class grade (age) and nationality on the dependent variables coping strategies (see Table 5.3). The 2*2*2 analysis of variance revealed a significant main effect of independent variables on dependent variables coping strategies. Using Wilk's criterion (Δ) as the omnibus test statistics, the combined dependent variables resulted in significant main effects for **gender** (A) Wilks' Δ=.927, F (9,296) =2.59, p<.007.with partial η^2 = .073 and **nationality** (C) Wilks' Δ=.49, F (9,296) =33.54, p<.001, partial η^2 = .50. The **gender*nationality (A*C)** Wilks' Δ=.93, F (9,296) =2.47, p<.010.with partial η^2 = .070.

To probe the statistically significant multivariate effects, univariate 2*2*2 ANOVAs conducted on each individual DV.

<u>Univariate analysis</u>

Gender.*Rumination:* For Rumination (rum) DV (see Table 5.13), there was a significant main effect for gender, F (1,304) =9.72, p=.002, η^2 = .030. The level of coping strategy rumination was significantly higher for females (M=1.98) relative to males (M=1.66), respectively.

Results

Table5.12. Mean (M) and Standard error (SE) SVF-J F-, p- and η² - MANOVA values for the main effects of sex, grade, nationality and their interactions for European and Asian groups

MANOVA		European				Asian				Factors							
		6/7		8/9.		6/7		8/9.			SexA)	Grade(B)	Nationality(C)	A*B	A*C	B*C	A*B*C
		w	m	w	m	w	m	w	m	df	9,296	9,296	9,296	9,296	9,296	9,296	9,296
Coping strategies										F	2.59	1.81	33.54	1.06	2.47	2.15	2.26
										p	**.007**	.065	**<.001**	.386	**.010**	.025	.018
										η²	.073	.052	.505	.031	.070	.061	.064
ANOVA		**European group**				**Asian Group**				df	sex(A) 1,304	Grade(B) 1,304	Nationality(C) 1,304	A*B 1,304	A*C 1,304	B*C 1,304	A*B*C 1,304
		6/7		8/9.		6/7		8/9.									
		w	m	w	m	w	m	w	m								
DIS	M	2.25	2.31	2.14	1.47	2.96	3.02	3.05	3.11	F	1.70	4.76	124.07	4.25	4.09	10.14	4.22
	SE	0.12	0.10	0.11	0.13	0.12	0.15	0.14	0.14	p	.187	.030	**<.001**	.040	.044	**.002**	.041
										η²	.006	.015	.290	.014	.013	.032	.014
MIN	M	2.01	2.04	1.98	1.86	2.87	2.99	2.75	2.90	F	0.11	0.84	82.97	0.15	0.62	0.01	0.14
	SE	0.13	0.11	0.13	0.15	0.13	0.17	0.15	0.16	p	.739	.358	**<.001**	.693	.428	.901	.709
										η²	.000	.003	.214	.001	.002	.000	.000
STC	M	2.81	2.72	2.77	2.23	2.72	2.81	2.66	2.91	F	0.46	1.44	2.05	0.53	5.83	2.03	2.30
	SE	0.13	0.13	0.13	0.15	0.13	0.16	0.15	0.16	p	.495	.231	.152	.466	.016	.154	.130
										η²	.002	.005	.007	.002	.019	.007	.008
POS	M	2.92	2.91	2.60	2.27	2.83	2.74	2.72	2.71	F	1.09	6.58	0.46	0.29	0.31	3.79	0.86
	SE	0.14	0.12	0.13	0.16	0.14	0.17	0.16	0.16	p	.295	**.011**	.496	.588	.573	.052	.352
										η²	.004	.021	.002	.001	.001	.012	.003
SOS	M	2.41	2.35	2.81	1.50	2.81	2.89	2.68	3.02	F	1.66	3.39	37.14	1.91	10.02	3.37	6.35
	SE	0.15	0.13	0.15	0.16	0.15	0.18	0.17	0.17	p	.198	.067	**<.001**	.167	**.002**	.067	**.012**
										η²	.005	.011	.109	.006	.032	.011	.020
PAV	M	1.82	1.43	1.67	1.66	1.50	1.60	1.75	1.43	F	2.41	0.04	0.32	0.06	0.35	0.03	2.91
	SE	0.14	0.12	0.14	0.16	0.14	0.18	0.16	0.17	p	.121	.835	.567	.806	.553	.846	.089
										η²	.008	.000	.001	000	.001	.000	.009
RUM	M	2.17	1.87	2.31	1.64	1.73	1.46	1.73	1.67	F	9.72	0.09	11.46	0.14	2.35	0.52	1.94
	SE	0.14	0.11	0.13	0.15	0.14	0.17	0.15	0.16	p	**.002**	.759	**<.001**	.701	.126	.468	.164
										η²	.031	.000	.036	.000	.008	.002	.006
RES	M	1.23	0.93	1.20	1.05	1.55	1.39	1.53	1.56	F	2.24	0.38	18,29	0.79	0.75	0.02	0.01
	SE	0.12	0.10	0.11	0.14	0.13	0.16	0.14	0.15	p	.135	.536	**<.001**	.372	.386	.884	.916
										η²	.007	.001	.057	.003	.002	.000	.000
AGG	M	1.70	1.40	1.78	1.84	1.85	1.60	2.00	1.94	F	1.89	6.24	2.68	1.86	0.03	0.00	0.21
	SE	0.13	0.11	0.12	0.15	0.13	0.16	0.15	0.16	p	.170	**.013**	.102	.173	.860	.957	.644
										η²	.006	.020	.009	.006	.000	.000	.001

Note: Significant results (p ≤.013) are bold highlighted

Results

Table5.13. Mean values (M) and Standard error (SE) of the subtest Rumination depending on gender

Strategy	N=312	Females	Males
Rumination	*M* *SE*	1.98 .070	1.66 .076

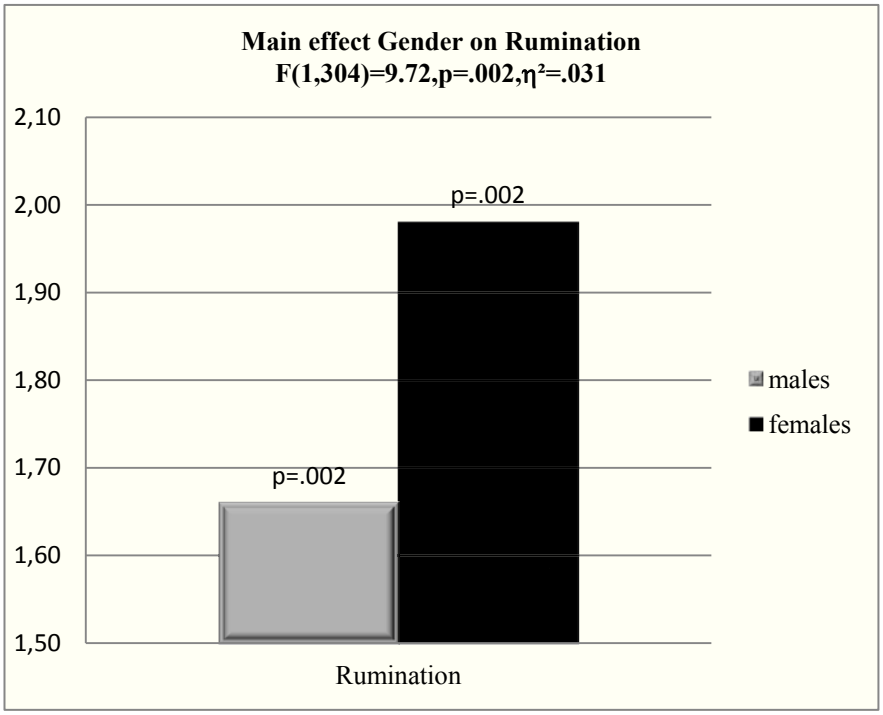

Figure 5.1 illustrates the significant main effect for maladaptive coping strategy Rumination depending on gender

Nationality (C). Univariate analysis revealed Wilks' Δ=.49, *F* (9,296) =33.54, *p*<.001, partial η^2 = .50 significant main effects for *Distraction* (DIS) *F* (1,304) = 124.07, *p*<.001, η^2 =.290, and *Minimization* (MIN) *F* (1,304) = 82.97, *p*<.001, η^2 =.214 (See Table 5.14). It was true for *Rumination* (RUM) *F* (1,304) =11.46, *p*<.001, η^2 = .036 and *Resignation* (RES) *F* (1,304) = 18.26, *p*<.001, η^2 = .057.

Results

Table 5.14. Mean values (M) and Standard error (SE) of the subtests Distraction, Minimization, Rumination, and Resignation, depending on nationality

Strategy	N = 312	Europeans	Asian
Distraction(DIS)	*M*	2.04	3.04
	SE	0.58	.068
Minimization(MIN)	*M*	1.97	2.89
	SE	0.06	0.07
Rumination(RUM)	*M*	2.00	1.65
	SE	0.06	0.07
Resignation(RES)	*M*	1.10	1.51
	SE	0.06	0.07

Pairwise comparisons (see Table 5.14) showed that Asian children and adolescent have significantly higher Mean score values for Emotion-focused strategies Distraction and Minimization as compared to European group. However, for maladaptive coping strategy Rumination European group scored significantly higher as compared to Asian group, on the other hand Resignation found higher in Asian children and adolescent. Dis $F(1,304) = 124.07$, $p \leq .001$, $\eta^2 = .290$, Min $F(1,304) = 82.97$, $p \leq .001$, $\eta^2 = .214$, Rum $F(1,304) = 11.46$, $p \leq .001$, $\eta^2 = .109$, and Res $F(1,304) = 18.26$, $p \leq .001$, $\eta^2 = .057$.

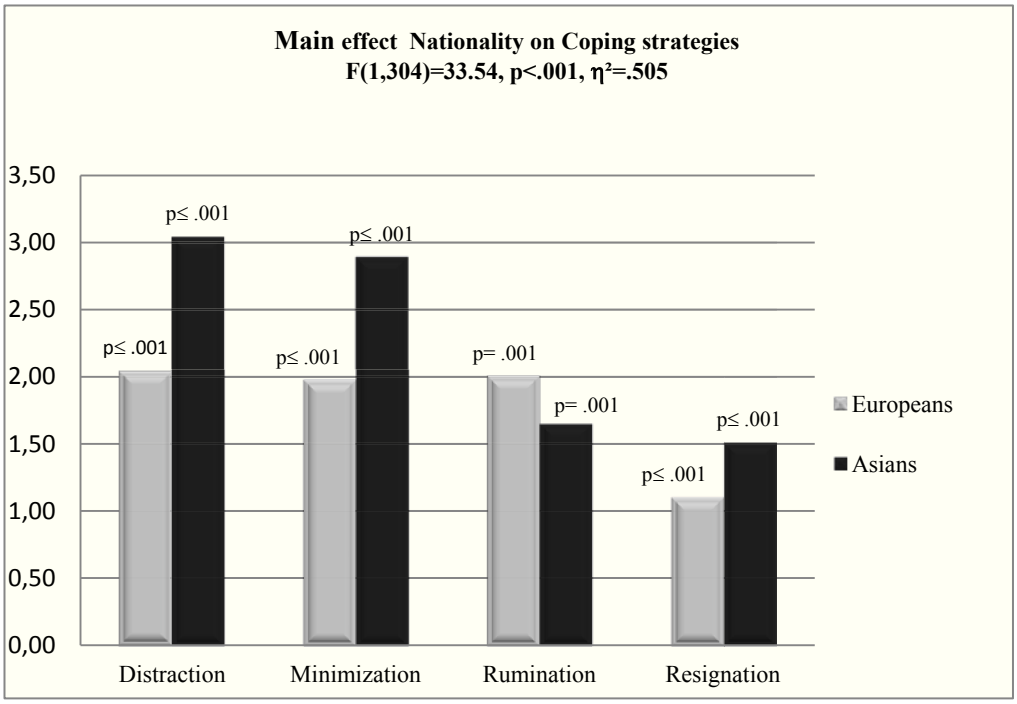

Figure 5.2 illustrates the significant main effect of maladaptive coping strategies depending on nationality

Gender*nationality there was a significant main effect of gender*nationality interaction for seeking Social support (sub) F (1,304) =10.02, p<.001, η^2 =.032, for European males (M=2.96) and females (M=2.70) the level of Social support was found significant as compare to Asian males (M=1.90) and females (M=2.40).

Table 5.15. Mean (M) and Standard error (SE) for subtest Social support depending on gender* nationality

Strategy	N = 312	Europeans		Asians	
		f	m	f	m
Social support	*M* *SE*	2.42 0.10	1.92 0.10	2.75 0.11	2.96 0.13

Pairwise comparisons revealed that European males scored (See Table 5.15) for ***Seeking social support*** significantly higher F (1,304) = 40.11 p<.001, η^2 = .117 as compared to Asian males.

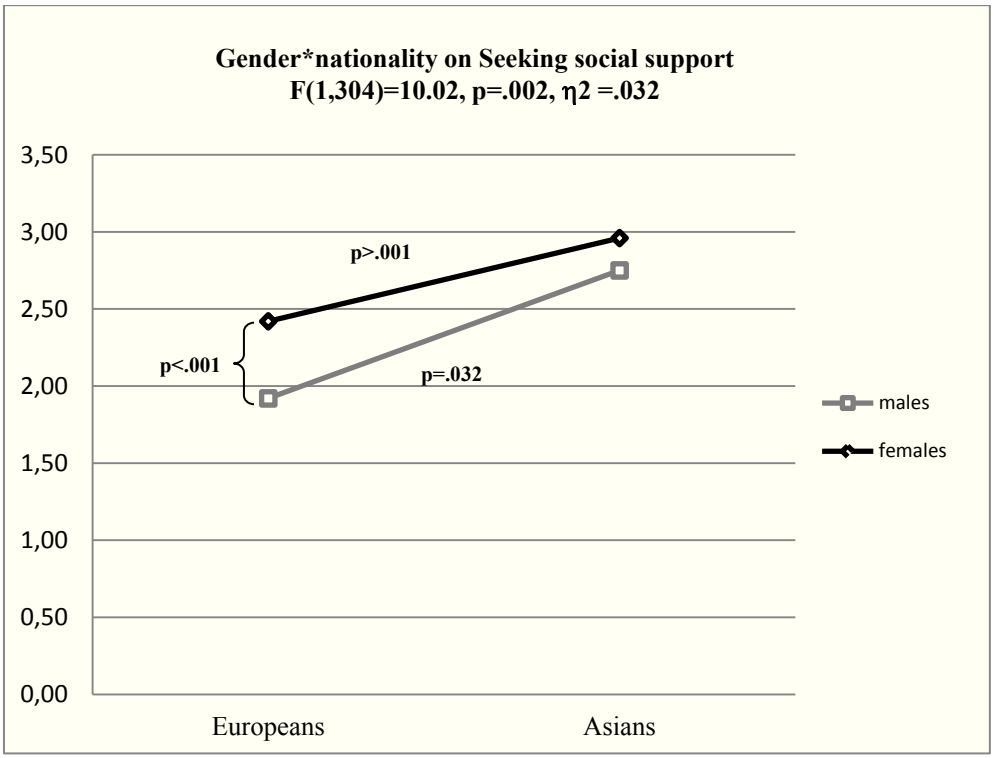

Figure 5.3 illustrates the significant effect for adaptive coping strategy social support depending gender*nationality

Hypotheses generating results

Although multivariate analysis did not reveal significant effects for Grade*nationality B*C and the two-fold interactions**.** Post-hoc derived univariate analysis yielded two effects:

First the hypotheses generating interaction B*C indicated that DIS F (1,304) =10.14, p=.002, partial η^2 = .032 Asian group grade 6/7 (M=2.99) and 8/9 (M=3.08) showed more Distraction for grade*nationality univariate analysis.

Results

Table 5.16. Mean (M) and Standard error (SE) for coping strategy Distraction depending on grade*nationality

Strategy	N = 312	Europeans		Asians	
		6/7	8/9	6/7	8/9
Distraction	*M*	2.28	1.80	2.99	3.08
	SE	0.07	0.08	0.09	0.09

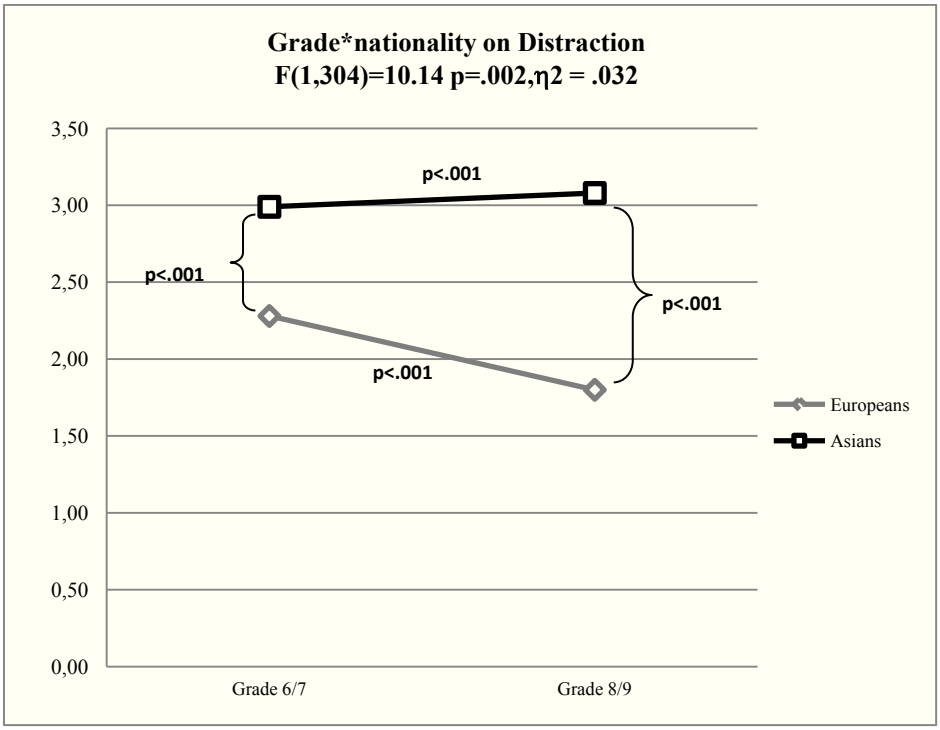

Figure 5.4 illustrates the hypotheses generating effect for coping strategy Distraction depending on grade*nationality

The hypothesis generating results the A*B*C univariate main effect SUB F (1,304) =6.35, p=.012, partial η^2 = .020 pointed that European males and females of both grades seek more social support as compared to Asian males and females.

Results

Table 5.17. Mean (M) and Standard error (SE) for seeking social support depending on gender*grade*nationality

Strategy	N = 312	Europeans				Asians			
		f		m		f		m	
		6/7	8/9	6/7	8/9	6/7	8/9	6/7	8/9
Social support	*M*	2.41	2.35	2.81	1.50	2.81	2.89	2.68	3.02
	SE	0.15	0.13	0.15	0.16	0.15	0.18	0.17	0.17

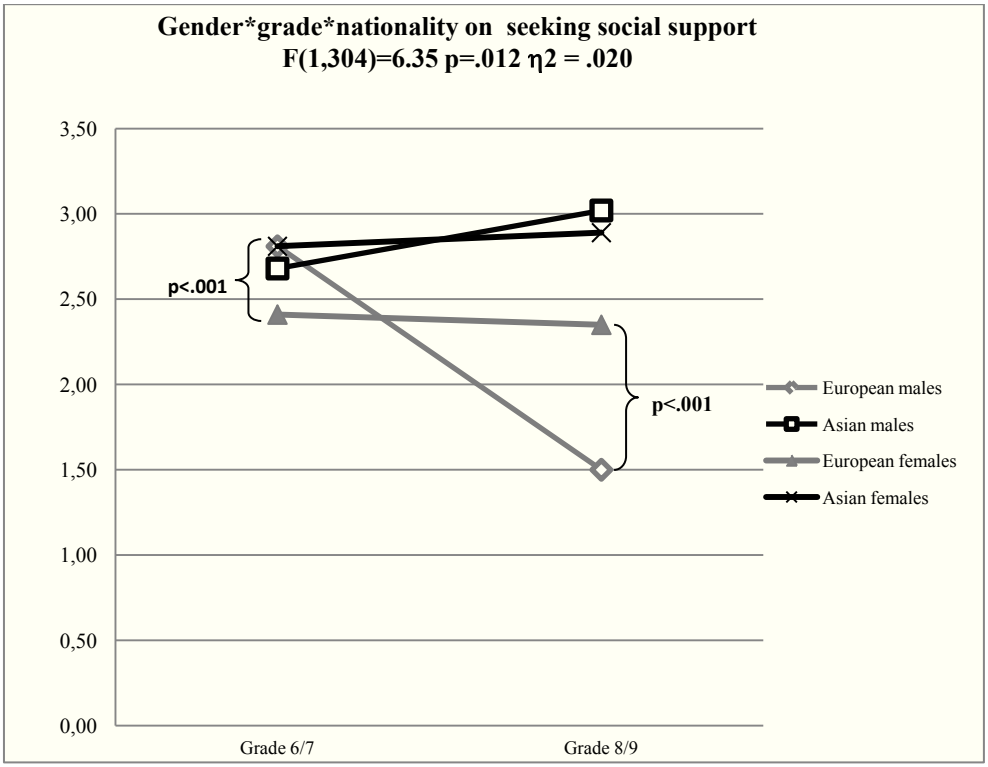

Figure 5.5 illustrates the hypotheses generating effect for seeking social support depending on gender*grade*nationality

Results

Summary:

Gender: The level of coping strategy rumination was significantly high for females.

The main effect of nationality variable showed that Asian children and adolescent have significantly higher Mean score values maladaptive coping strategies as compared to European group (Distraction, Minimization, and Resignation).

Rumination was found higher in European group.

Gender*nationality: For European males the level of Social support was found significant as compare to Asian males.

The hypotheses generating interaction B*C indicated that Asian group grade 6/7 (M=2.99) and 8/9 showed more Distraction for grade*nationality univariate analysis. The hypothesis generating results the A*B*C univariate main effect pointed that European males and females of both grades seek more social support as compared to Asian males and females.

Results

5.2.2. Gender, grade, and nationality differences for perceived stress (social and academic stress subscales):

A 2*2*2 multivariate analysis of variance (MANOVA) was performed to determine the effect of the gender, class grade (age) and nationality on the two subtest of perceived stress (social and academic). The analysis revealed (See Table 5.16a & b) significant differences among the IVs on the dependent variables SR (academic and social).

For **gender** Wilks' Δ=.87, F (2,303) =21.98, p<.001. The multivariate η^2 based on Wilks'Δ was significant at .127.**Grade** and **nationality** found also significant with Wilks' Δ=.95, F (2,303) =7.95, p<.001 and. Wilks' Δ=.63, F (2,303) =86.72, p<.001 respectively. On the other hand interaction effect of **Gender*grade** Wilks' Δ=.05, F (2,303) =7.54, p<.001.

Gender*nationality was found significant Wilks' Δ=.84, F (2,303) =27.67, p<.001. The interaction effect of all three IV **gender*grade*nationality** was also significant 5% of variance can be explained by this interaction Wilks' Δ=.87, F (2,303) =21.98, p<.001 with η^2 = .048.

Results

Table 5.18a. MANOVA results for perceived stress with-, p- and η² - for main effects of sex, grade, and nationality for European and Asian groups.

MANOVA	European				Asian				Factors							
	6/7		8/9		6/7		8/9			sex(A)	grade (B)	nationality (C)	A*B	A*C	B*C	A*B*C
	f	m	f	m	f	m	f	m	df	2,303	2,303	2,303	2,303	2,303	2,303	2,303
Perceived stress (SR)									F	21.98	7.95	86.72	7.54	27.67	7.89	7.68
									p	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**
									,	0.13	0.05	0.36	0.05	0.15	0.05	0.05

Table 5.18b. Mean (M) and Standard error (SE) for subscales social and academic stress F-, p- and η² - ANOVA values for the main effects of sex, grade, nationality and their interactions for European and Asian groups

ANOVA		European				Asian				Factors							
		6/7		8/9		6/7		8/9			sex(A)	grade (B)	nationality (C)	A*B	A*C	B*C	A*B*C
		f	m	f	m	f	m	f	m	df	1,304	1,304	1,304	1,304	1,304	1,304	1,304
Perceived stress (social)	*M*	1.42	1.21	1.54	1.28	2.00	2.30	1.35	2.35	F	4.34	1.16	40.92	2.62	19.43	3.88	3.51
	SE	0.13	0.11	0.12	0.15	0.13	0.16	0.15	0.15	p	.038	.282	**<.001**	.106	**<.001**	.050	.062
										η²	0.01	0.00	0.11	0.00	0.06	0.01	0.11
Perceived stress (academic)	*M*	1.85	1.86	1.84	1.83	2.95	3.42	1.68	3.40	F	40.77	15.10	138.93	12.96	38.22	12.49	12,40
	SE	0.11	0.09	0.10	0.12	0.11	0.14	0.13	0.14	p	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**	**<.001**
										η²	0.11	0.05	0.31	0.04	0.11	0.04	0.04

Note: Significant results (p ≤.013) are bold highlighted.

Results

Univariate analysis

Gender*nationality (A*C) the gender*nationality interaction revealed significant main effects for social stress F (1,304) =19.43, p<.001, η^2=0.06.

Table 5.19. Mean values (M) and Standard error (SE) for subscale social stress depending on gender*nationality

Perceived stress	N=312	Europeans		Asians	
		f	m	f	m
Social stress	*M*	1.48	1.24	1.67	2.32
	SE	0.09	0.09	0.10	0.11

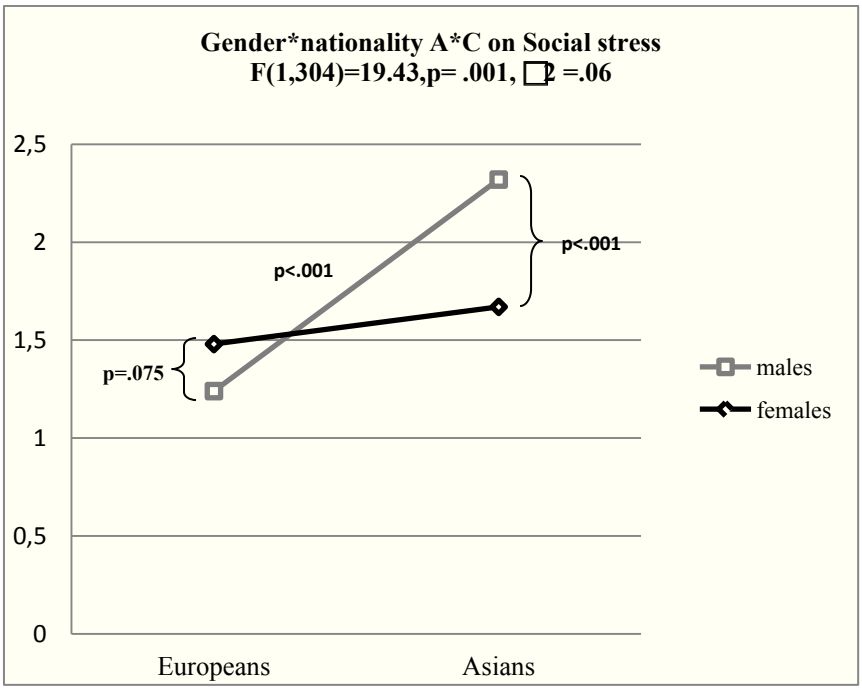

Figure 5.6 illustrates the significant effect for perceived stress (social) depending on gender*nationality

Pairwise comparison revealed that Asian males reported significantly higher social stress *(M=2.32), p<.001* as compared to Asian females. *(M=1.67), p<.001.* The European group reported no significant social and academic stress.

Results

Gender*grade*nationality (A*B*C), the Gender*grade*nationality interaction revealed significant main effects for academic stress F (1,304) =12.40, p<.001, η^2=0.04

Table 5.20. Mean (M) and Standard error (SE) for subscale academic stress depending on gender*grade*nationality

Perceived stress subscale	N = 312	Europeans				Asians			
		f		m		f		m	
		6/7	8/9	6/7	8/9	6/7	8/9	6/7	8/9
Academic stress	*M*	1.85	1.81	1.86	1.83	2.95	1.68	3.42	3.40
	SE	0.11	0.10	0.09	0.12	0.11	0.13	0.14	0.13

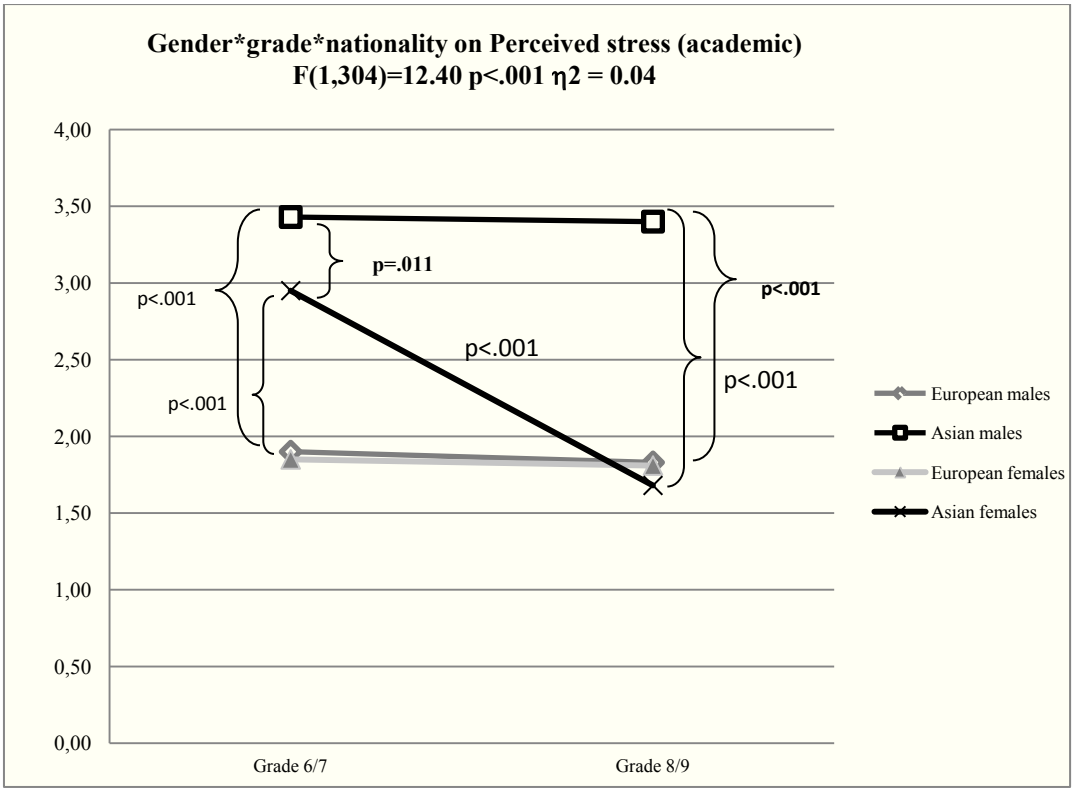

Figure 5.7 illustrates the significant effect for perceived stress (academic) depending on gender*grade*nationality for Asian group

Pairwise comparison revealed that Asian females grade 6/7 *(M=2.95), p<.001* and grade 8/9 *(M=1.68), p<.001* reported significantly higher academic stress as compared to males of the respective grades. For European males and females, the difference was not significant for both grades levels.

Results

Summary:

Gender*nationality the interaction revealed significant main effects for social stress in Asian males and academic stress in Asian females.

A*B*C: Pair wise comparison revealed that Asian females grade 6/7 and grade 8/9 reported significantly higher academic stress as compared to males of the respective grades. For German males and females, the difference was not significant for both grades levels.

5.2.3. Gender, grade, and nationality differences for psychopathology (internalisation and externalisation.) RAASI.

A 2*2*2 multivariate analysis of variance (MANOVA) was conducted to determine the effects of gender, class grade (age) and nationality on the dependent variables (internalisation) and (externalisation).

For **gender** Wilks' Δ=.923, *F* (4,301) =6.246, *p*<.001(see table 5.21). The multivariate η^2 based on Wilks'Δ was significant at .077 it means that there were statistically significant differences between males and females in terms of outcome of psychopathology

For **nationality** Wilks' Δ=.68, *F* (4,301) =35.38 *p*<.001 with η^2 =.32 was found significant showed both ethnic groups differ significantly for the outcome of psychopathology.

<u>Univariate analysis</u>

Gender. Aggressive behavior (AB) *F* (1,304) =6.52 *p*=.011 η^2 =.02*,* Anger control problem (AC), *F* (1,304) =6.72 *p*=.010 η^2 =.02, and negative self (NS) F (1,304) =12.35 *p*=.001 partial eta squared=.039 revealed significant main effects for males and females (see Table 5.20). AB, F (1,304) =6.52, p= .011, η^2=.021, AC, F (1,304) =6.72, p=.010, η^2=.022, and NS, F (1,304) =12.35, p=.

001, η^2=.039.

Table 5.21. Mean (M) and Standard error (SE) for RAASI with F-, p- und η² - Values with Manova nad Anova analyses for the main effects of sex, grade and nationality, and their interactions

MANOVA		Europeans				Asian				Factors							
		6/7		8/9		6/7		8/9			Sex (A)	grade (B)	nationality (C)	A*B	A*C	B*C	A*B*C
		f	m	f	m	f	m	f	m	df	4,301	4,301	4,301	4,301	4,301	4,301	4,301
Psychological problems (RAASI)										F	6.24	1.09	35.38	1.69	2.82	1.77	2.07
										p	**<.001**	**.**361	**<.001**	.152	.025	.133	.084
										η²	.077	.014	.320	.022	.036	.023	.027
ANOVA		**Europeans**				**Asian**					**Sex (A)**	**grade (B)**	**nationality (C)**	**A*B**	**A*C**	**B*C**	**A*B*C**
		f	**m**	**f**	**m**	**f**	**m**	**f**	**m**	df	1,304	1,304	1,304	1,304	1,304	1,304	1,304
AB	*M*	0.27	0.35	0.36	0.39	0.55	0.82	0.57	0.58	F	6.52	0.29	59.81	4.09	1.46	5.81	1.93
	SE	0.05	0.42	0.04	0.05	0.49	0.06	0.05	0.06	p	**.011**	0.59	**<.001**	.044	..227	.016	.16
										η²	.021	.001	.016	.013	.005	.019	.006
AC	*M*	0.49	0.45	0.53	0.64	0.37	0.62	0.43	0.51	F	6.72	1.55	1.35	.000	2.52	3.19	4.51
	SE	0.05	0.04	0.05	0.06	0.15	0.06	0.06	0.06	p	**.010**	0.21	0.25	.999	.114	.75	.034
										η²	.022	.005	.004	.000	.008	.010	.015
ED	*M*	0.65	0.50	0.72	0.51	0.47	0.57	0.41	0.54	F	0.59	0.00	4.61	0.05	11.15	0.89	0.22
	SE	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.07	p	.443	0.95	.033	.814	**.001**	.344	.64
										η²	.002	.000	.015	.000	.035	.003	.001
NS	*M*	0.84	1.01	0.88	1.11	0.58	0.90	0.60	0.70	F	12.35	.021	20.90	.512	.006	1.88	1.50
	SE	0.07	0.06	0.07	0.08	0.07	0.09	0.08	0.09	p	**.001**	.886	**<.001**	.475	.939	.171	.221
										η²	.039	.000	.064	.002	.000	.006	.005

Note: Significant values (p ≤.013) are bold highlighted

Table 5.22. Mean values (M) and Standard error (SE) of the subtest Aggressive behavior, Anger control problem, and Negative self, depending on gender

Problems	N = 312	females	males
Aggressive behavior (AB)	*M*	0.44	0.55
	SE	0.02	0.02
Anger control problem (AC)	*M*	0.46	0.56
	SE	0.03	0.03
Negative self (NS)	*M*	0.73	0.93
	SE	0.04	0.04

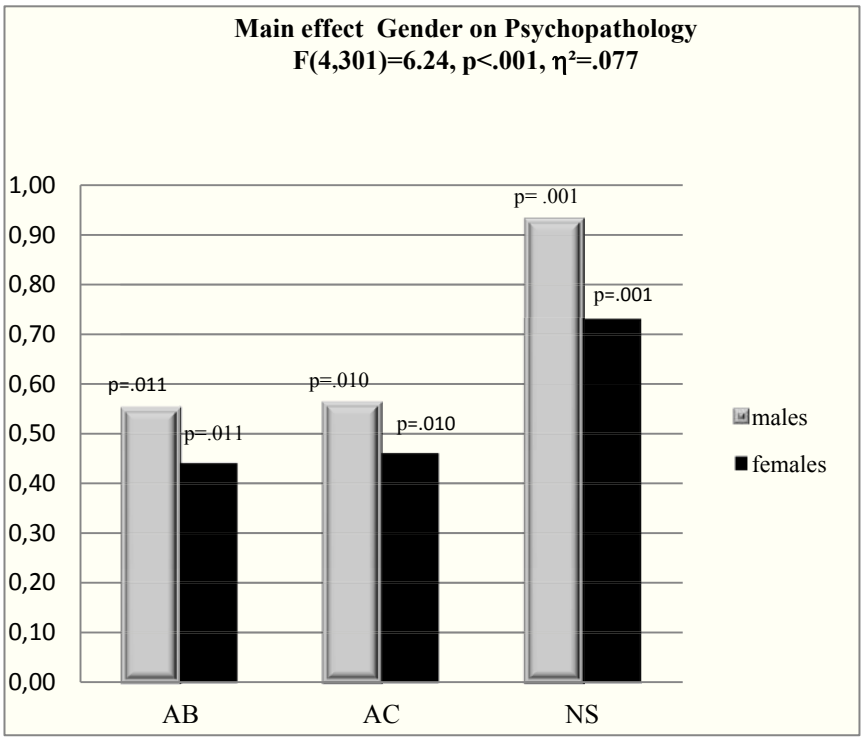

Figure 5.8 illustrates the significant main effect for internalisation and externalisation depending on gender

Pairwise comparisons showed that male students reported more Aggressive behavior, Anger control problems and Negative self (see figure 5.8).

Results

Nationality.for the interaction effect of IV nationality Asian group reported significantly higher Aggressive behavior problems (externalisation), whereas European group scored higher for Negative self (internalisation). AB, F (1,304) =59.81, p= .001, η^2=.16, NS, F (1,304) =20.90, p=<001, η^2=.064

Pairwise comparisons revealed (see table 5.22) that Asian group reported more Aggressive behavior AB, *F* (1,304) =59.81 p=.001 η^2 =.16 as compared to European group.

There is significantly higher level of Negative self-*F* (1,304) =20.90 *p*<.001 η^2 =.064 in European children and adolescents as compared to Asians.

Table 5.23. Mean (M) and Standard error (SE) for subtests Aggressive behavior and Negative self depending on nationality

Problem	N = 312	Europeans	Asians
AB	*M*	0.35	0.63
	SE	.02	.03
NS	*M*	0.96	0.69
	SE	.04	.04

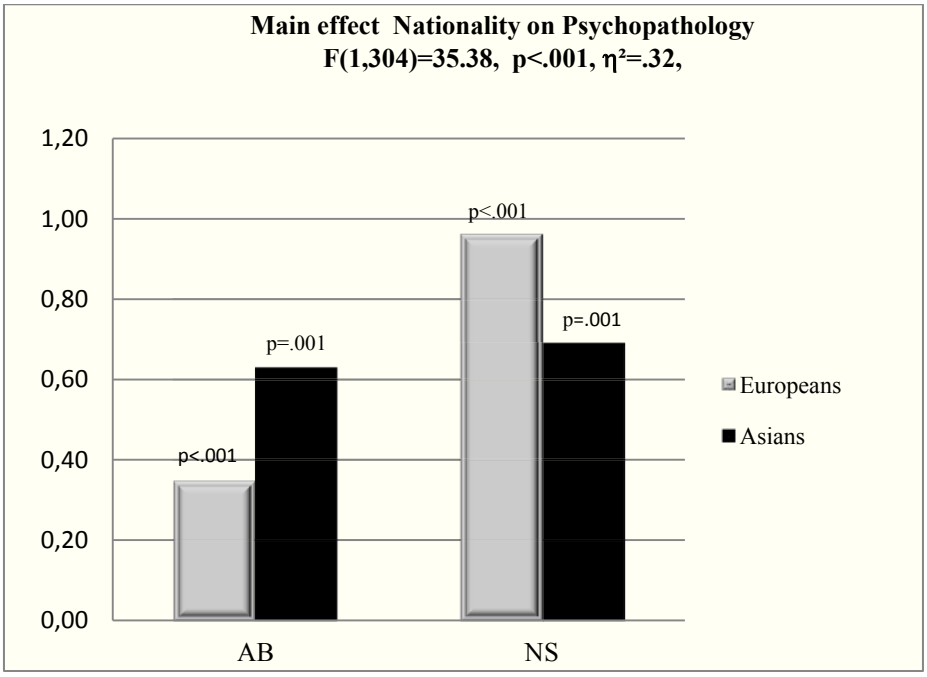

Figure 5.9 illustrates the significant main effect for internalisation and externalisation depending on nationality

Figure 5.9 showed that Asian group scored significantly higher for the externalisation subscale, Aggressive behavior; on the other hand, European group reported more Negative self (subscale internalisation), as compared to Asians.

Hypotheses generating results

Although multivariate analysis did not reveal significant effects for Grade*nationality interactions**.** Post-hoc derived univariate analysis yielded significant effect.

The dependent variable Emotional distress F (1,304) =11.15 p=.001, η^2 =.035 was found significant for **gender*nationality A*C** interaction. The hypotheses generating results indicated that Europeans males and females reported more Emotional distress as compared to Asian males and females

Results

Table 5.24. Mean (M) and Standard error (SE) for Emotional distress depending on gender* nationality

Problem	N = 312	Europeans		Asians	
		f	m	f	m
Emotional distress	*M*	0.69	0.50	0.45	0.56
	SE	0.04	0.04	0.04	0.05

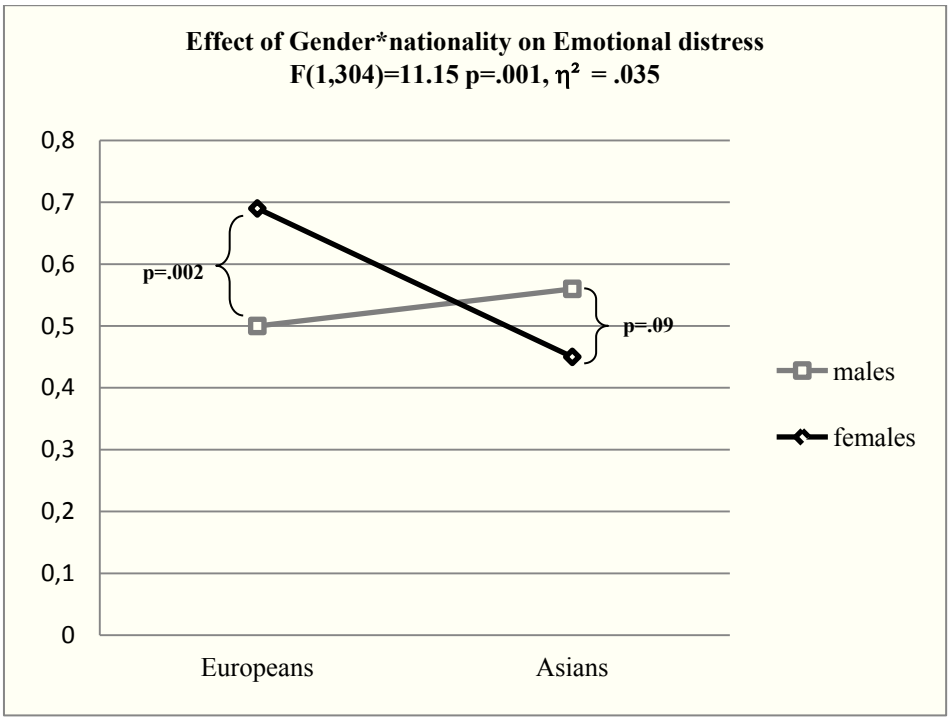

Figure 5.10 illustrates hypotheses generating effect for Emotional distress depending on gender* nationality

Results

Summary:

Gender: Pairwise comparisons showed that male students reported more Aggressive behavior, Anger control problems, and Positive self.

Nationality: showed that Asian males and females scored significantly higher for the externalisation subscale, Aggressive behavior; on the other hand, European group reported more Negative self (subscale internalisation), as compared to Asians.

Gender*nationality Pairwise comparisons revealed that European males and females reported significantly high emotional distress as compared to Asian.

The dependent variable Emotional distress was found significant for gender*nationality A*C interaction. The hypotheses generating results indicated that Europeans males and females reported more Emotional distress as compared to Asian males and females.

5.2.4. The Big Five-personality scale FFFK-S.

Multivariate analysis of variance (MANOVA) revealed main effect of Gender, class grade (age) and nationality on the dependent variables Personality traits subscales FFFK (see Table 5.22).

Using Wilk's criterion (Δ) as the omnibus test statistics after Bonferroni, the combined dependent variables resulted in significant main effects for **gender** Wilks' Δ=.879, *F* (5,300) =8.22, *p*<.001.with partial η^2 = .121 **grade** Wilks' Δ=., *F* (5,300) =5.96, *p*<.001, partial η^2 = .090, **nationality** Wilks' Δ=., *F* (5,300) =16.56, *p*<.001, partial η^2 = .216.

The **gender*nationality** Wilks' Δ=.85, *F* (5,300) =9.96, *p*<.001.with partial η^2 = .142, **grade*nationality** Wilks' Δ=.93, *F F* (5,300) =4.07, *p*<.001.with partial η^2 = .064, and **gender*grade*nationality** interactions Wilks' Δ=.93, *F* (5,300) =4.41, *p*<.001 with partial η^2 = .068 were also statistically significant.

Table 5.25. Mean (M) and Standard error (SE) for Big Five FFF_K with F-, p- und η² - values with Manova nad Anova analyses for the main effects of sex, grade and nationality, and their interactions

MANOVA		Europeans				Asians				Factors							
		6./7		8/9		6./7		8/9			sex (A)	grade (B)	nationaltiy (C)	A*B	A*C	B*C	A*B*C
		f	m	f	m	f	m	f	m	df	5,300	5,300	5,300	5,300	5,300	5,300	5,300
Personality (FFF-K)										F	8.22	5.96	16.56	2.27	9.96	4.07	4.41
										p	**.000**	**<.001**	**<001**	.047	**<001**	**<001**	**<001**
										η²	.121	.090	.216	.037	.142	.064	.068
ANOVA		**Europeans**				**Asians**				df	**sex (A)** 1,304	**grade (B)** 1,304	**Nationality (C)** 1,304	**A*B** 1,304	**A*C** 1,304	**B*C** 1,304	**A*B*C** 1,304
		f	**m**	**f**	**m**	**f**	**m**	**f**	**m**								
Extraversion	*M*	3.73	3.75	3.80	3.52	4.11	3.93	4.18	3.62	F	6.43	.528	11.07	7.40	12.00	.025	14.14
	SE	0.21	0.20	0.16	0.16	0.27	0.19	0.25	0.17	p	0.12	0.46	**<.001**	**<.001**	**<.001**	0.8	**.001**
										η²	.021	.002	0.16	.035	.024	.038	.044
Emotional Stability	*M*	3.15	3.79	3.45	3.82	3.63	4.14	3.80	3.74	F	6.66	0.83	6.27	0.44	6.65	1.07	1.75
	SE	0.17	0.17	0.14	0.13	0.23	0.16	0.21	0.14	p	**.010**	.363	**.013**	.503	**.010**	.302	.186
										η²	.021	.003	.020	.001	.021	.004	.006
Social compatibility	*M*	3.93	3.60	3.12	3.04	4.06	3.64	3.50	3.39	F	23.73	17,27	23.04	3.23	8.74	4.44	9.53
	SE	0.19	0.18	0.15	0.15	0.25	0.17	0.23	0.15	p	**.001**	**.001**	**.001**	.073	**.003**	.036	**.002**
										η²	.072	.054	.070	.01	.028	.014	.030
Openness /culture	*M*	3.53	3.68	3.47	3.65	3.89	3.96	3.45	3.84	F	21.61	11.64	60.18	6.81	46.68	9.67	10.13
	SE	0.17	0.17	0.14	0.13	0.23	0.16	0.21	0.14	p	**<.001**	**<.001**	**<.001**	**.010**	**.001**	**.002**	**.002**
										η²	.066	.037	.165	.022	.133	.031	.032
Conscientiousness	*M*	3.82	3.46	3.15	3.21	3.47	3.56	3.05	2.99	F	7.03	21.42	37.33	.006	5.71	11.21	1.53
	SE	0.20	0.19	0.16	0.16	0.26	0.19	0.25	0.16	p	**<.001**	**<.001**	**<.001**	.93	.017	**<.001**	0.21
										η²	.023	.006	.109	.000	.018	.03	.005

Note: Significant values (p ≤.013) are bold highlighted

Univariate analysis

Gender was found significant for Conscientiousness F (1,304) =7.03 p<.001, η^2=0.23, it has revealed (see table 5.26) that males and females in both ethnic groups differ from each other for the above-mentioned personality trait.

Table 5.26. Mean (M) and Standard error (SE) for subscale Conscientiousness depending on gender

Personality traits subscales	N = 312	females	males
Conscientiousness	*M* *SE*	3.18 0.06	2.92 0.07

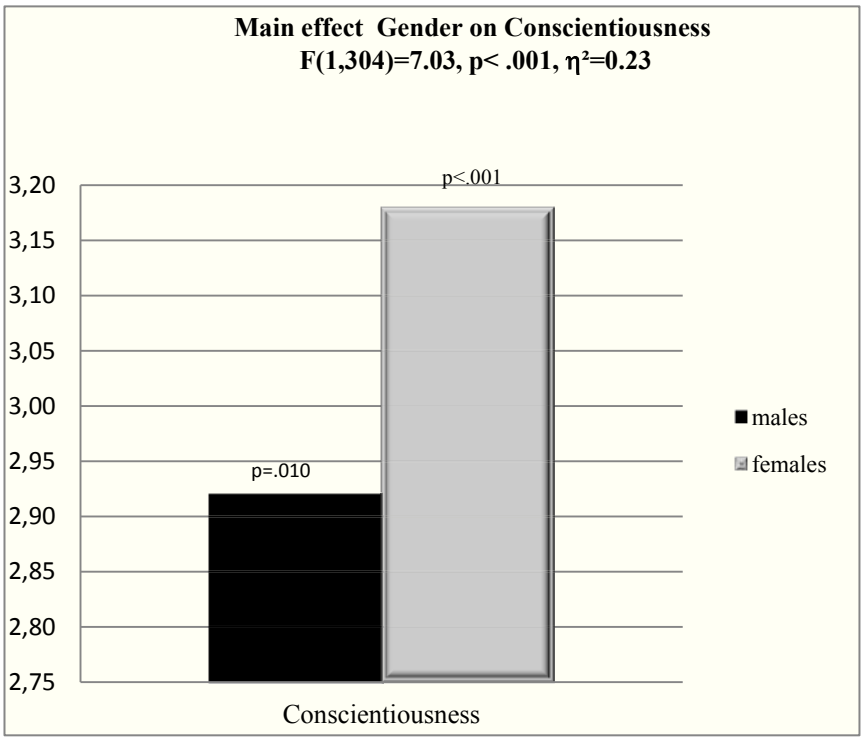

Figure 5.11 illustrates the significant main effect for Conscientiousness depending on gender

As evident by Figure 5.11 that females reported significantly higher Conscientiousness (*M=3.18*), p<.001 as compared to males (*M=2.92*), p<.001.

Gender*nationality interaction revealed significant univariate effect for Emotional Stability F (1,304) =6.65, p=.010, η^2 = .021

Table 5.27. Mean (M) and Standard error (SE) for Subscales Emotional stability depending on grade*nationality

Personality traits subscales	N = 312	Europeans		Asians	
		f	m	f	m
Emotional stability	*M*	3.33	3.72	3.72	3.72
	SE	0.07	0.07	0.07	0.08

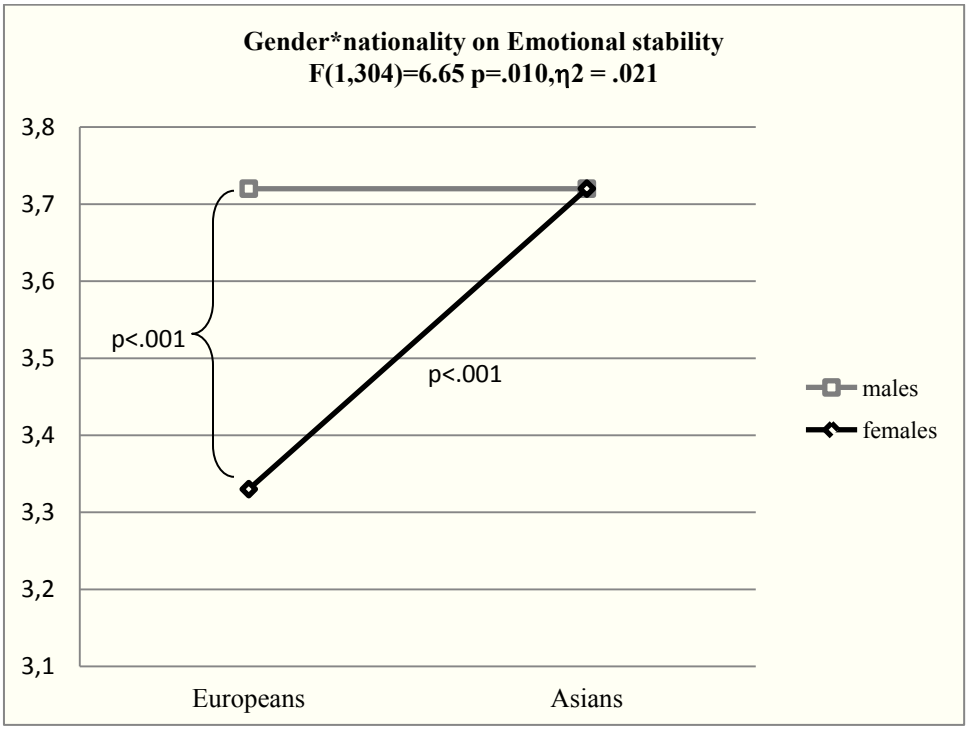

Figure 5.12 illustrates the significant main effect for Emotional stability depending on gender*nationality

Pairwise comparison as shown by figure 5.9 revealed that European females (*M=3.33*), p<.001 and Asian females (*M=3.72*), p<.001 reported more Emotional stability as compared to European (*M=3.73*), p=0.96 and Asian males (*M=3.72*), p=0.96.

Grade*nationality. Showed significant main effect Conscientiousness F (1,304) =11.21, p<.001, η^2=.036.

Table 5.28. Mean (M) and Standard error (SE) for Subscale Conscientiousness depending on grade*nationality

Personality traits subscales	N = 312	Europeans		Asians	
		6/7	8/9	6/7	8/9
Conscientiousness	*M*	3.42	3.29	3.14	2.34
	SE	0.08	0.09	0.10	0.11

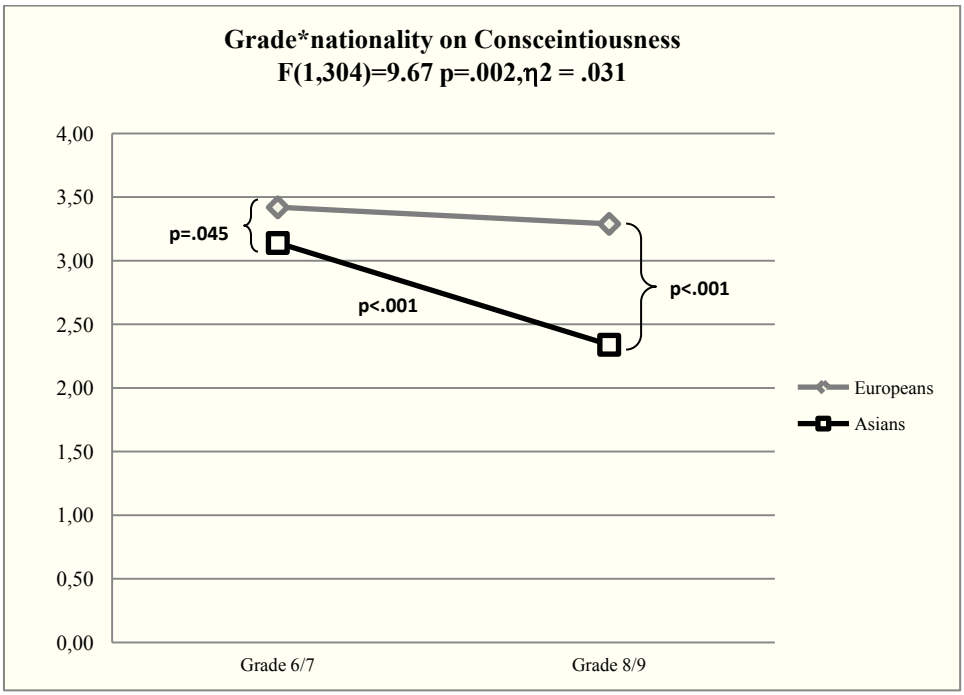

Figure 5.13 illustrates the significant main effect for Conscientiousness depending on grade*nationality

Pairwise comparison: as shown by Figure 5.13 revealed that Grade 8/9 European males (*M=3.29*), p<.001 reported significantly higher Conscientiousness as compared to Asian group. (*M=2.34*), p<.001.

Gender*grade*nationality showed that there were significant gender and age difference for personality styles between and within both ethnic groups for

Extraversion F (1,304) =14.19, p<.001, partial η^2 = .044, Social compatibility F (1,304) =9.53, p=.002, η^2 = .030, and Openness/culture with F (1,304) =10.13 p=.002, η^2 = .032.

Table5.29a. Mean (M) and Standard error (SE) for Subscales Extraversion depending on gender*grade*nationality

Personality traits subscales	N = 312	Europeans				Asians			
		f		m		f		m	
		6/7	8/9	6/7	8/9	6/7	8/9	6/7	8/9
Extraversion	*M*	3.23	3.24	3.46	3.23	3.66	2.84	2.21	2.90
	SE	0.15	0.14	0.10	0.17	0.15	0.17	0.19	0.18

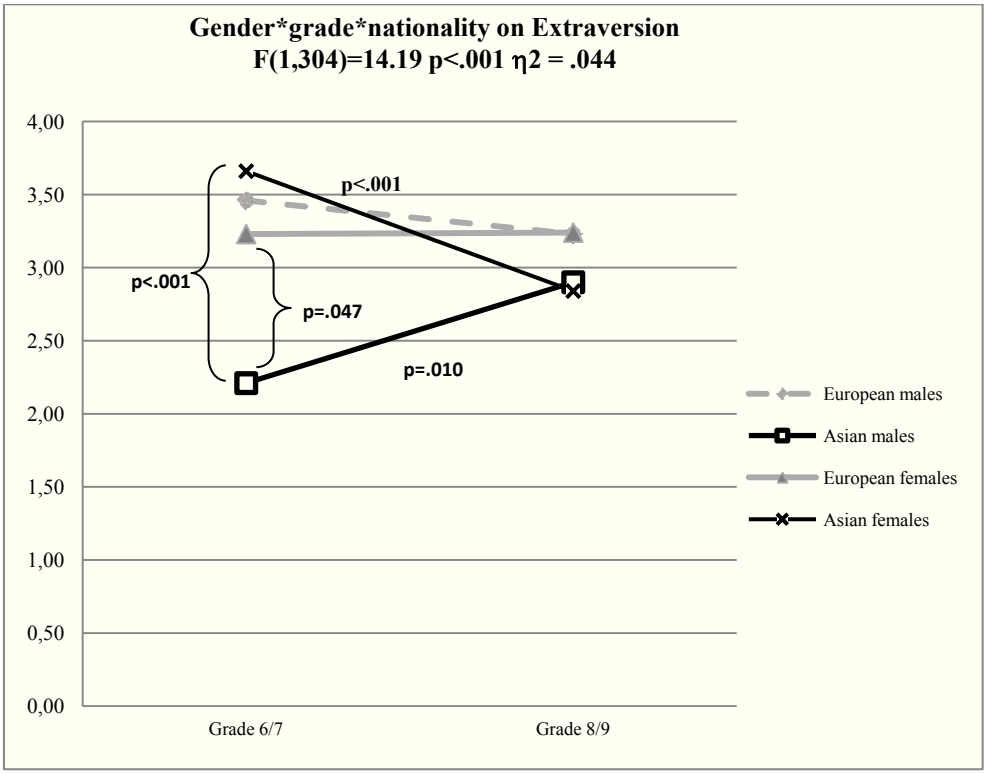

Figure 5.14a illustrates the significant effect for Extraversion depending on grade*gender*nationality

As showed by Figure 5.14a Asian females and males of grade, 6/7 reported significantly higher Extraversion.

Pairwise comparison as shown by figure 5.14a revealed that Asian females grade 6/7 reported more ***Extraversion***, (*M=3.66*), p<.001 as compared to European females (*M=3.23*).

Table 5.29b. Mean (M) and Standard error (SE) for Subscale Social compatibility depending on gender*grade*nationality

Personality traits subscales	N = 312	Europeans				Asians			
		f		m		f		m	
		6/7	8/9	6/7	8/9	6/7	8/9	6/7	8/9
Social compatibility	*M*	3.46	3.37	3.39	3.02	3.83	2.59	2.42	2.26
	SE	0.14	0.13	0.13	0.16	0.15	0.16	0.18	0.17

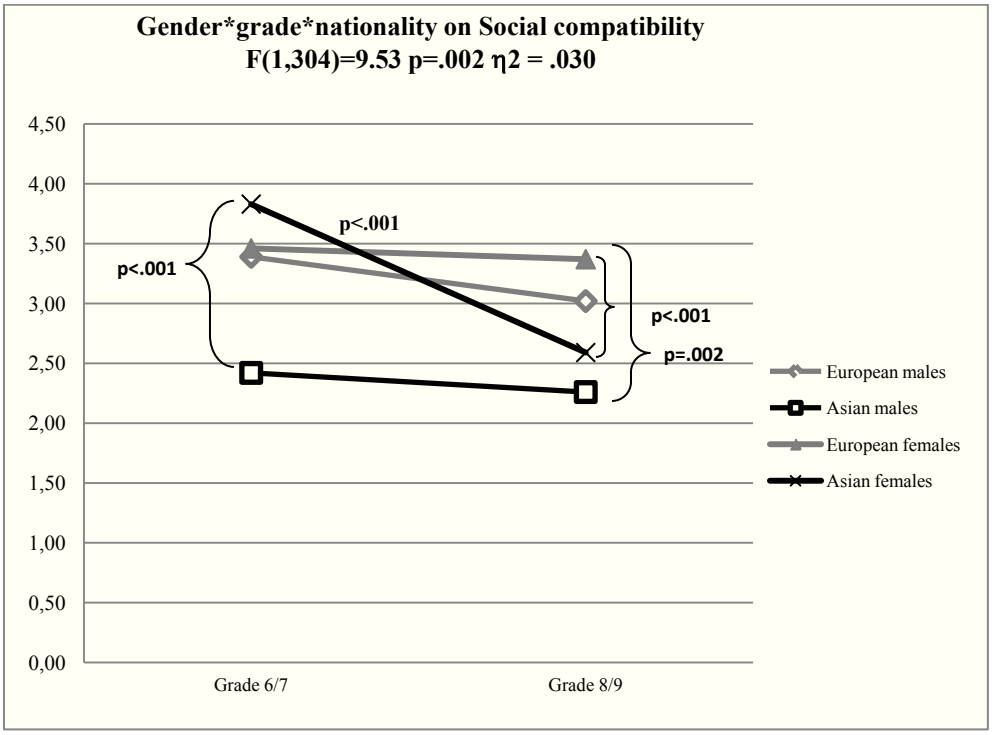

Figure 5.14b illustrates the significant effect for Social compatibility depending on grade*gender*nationality

For ***Social compatibility*** (see figure 5.14b) European males grade 6/7 (*M=3.39*), p<.001 reported significantly higher as compared to grade 8/9 males (*M=3.02*), p=.002.

Table 5.29c. Mean (M) and Standard error (SE) for Subscale, Openness depending on gender*grade*nationality

Personality traits subscales	N = 312	Europeans				Asians			
		f		m		f		m	
		6/7	8/9	6/7	8/9	6/7	8/9	6/7	8/9
Openness	*M*	3.33	3.36	3.62	3.52	3.89	2.60	2.09	2.01
	SE	0.13	0.13	0.11	0.15	0.13	0.15	0.17	0.16

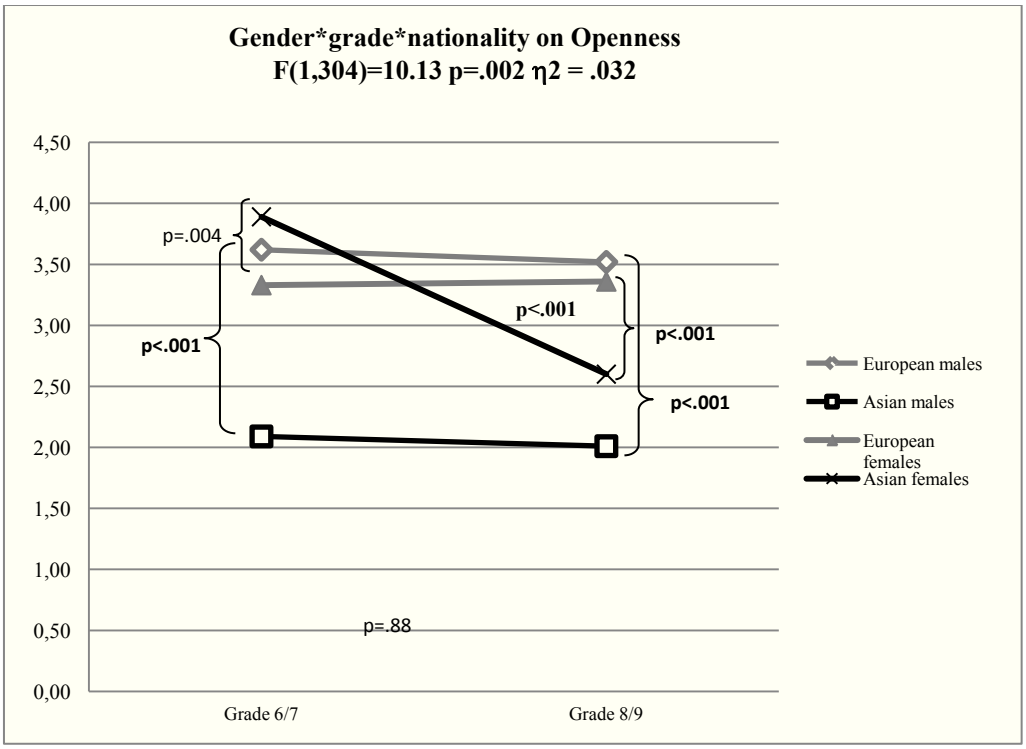

Figure 5.14c illustrates the significant effect for Openness depending on grade*gender*nationality

Openness in European males grade 6/7 (*M=3.62*), p<.001 8/9 (*M=3.52*), p<.001 was found significantly higher as compared to Asian males

Pairwise comparison as shown by figure 5.14c revealed that Asian females grade 6/7 reported significantly higher Openness, females (*M=3.89*), p=.004 males (*M=2.09*), p<.001.

Summary:

Gender: Females reported significantly higher Conscientiousness as compared to males.

Gender*nationality: European females and Asian females reported more Emotional stability as compared to European and Asian males .

Grade*nationality: Pairwise comparison revealed that Grade 8/9 European males reported signifiantly higher Conscientiousness as compared to Asian group. However there was no significant interaction effect B*C found between Grade 6/7 males and females in both groups.

A*B*C: Asian females grade 6/7 reported more ***Extraversion***, as compared to European females.

European males grade 6/7 reported significantly higher ***Socíal compatibility*** as compared to grade 8/9 males.

Although ***Openness*** was found significant for both comparison groups but pairwise comparison revealed European males grade 6/7 and 8/9 reported significantly higher openness as compared to Asian males.

Pairwise comparison revealed that Asian females grade 6/7 reported significantly higher Openness as compared to both grades and nationalities.

5.2.5. Regression Analysis: Model testing

In order test the adapted model for prediction of psychopathology outcomes (after Grant et al (2003) that academic and stress (daily hassles) contribute to internalisation and externalisation a regression analysis was conducted.

None of the values exceeds 2.00 for Variance inflation factor, therefore using this method of analysis multicollinearity is not a concern with this set of data.

To examine the independent and relative contribution of each variable the regression model contained five steps. Since variables will not be added to the regression equation unless they make a statistically significant addition to the analysis, all of the independent variable selected for inclusion will have a statistically significant relationship to the dependent variable. Each time SPSS includes or removes a variable from the analysis, SPSS considers it a new step or model, i.e. there will be one model and result for each variable included in the analysis

The total variance explained by the entire set of variables is 27% (R^2 =.27, F (5,306) = 22.934, p<0.001) and is significant (see Table 5.30a)

Table 5.30a. Hierarchical Multiple Regression Analysis for Variables interacting to predict Child-reported Internalising Behavior Problems for N=312.p<.05

Variables	B	β	t	p
Step 1				
SR (social)	.07	.18	3.29	<.001
Step 2				
SR (social)	.016	.36	4.29	<.001
Nationality	-.234	-.34	-6.11	<.001
				<.001
Step 3				
SR (social)	.08	.23	4.29	<.001
Nationality	-.35	-.38	-7.26	<.001
Big Five (Social compatibility)	-.10	-.32	-6.15	
Step 4				
SR (social)	.08	.216	4.05	<.001
Nationality	-.24	-.36	-6.69	<.001
Big Five Social compatibility	-.09	-.31	-6.04	<.001
Emotional stability	-.08	-.17	-3.40	<.001
Step 5				
SR (social)	.08	.20	3.89	<.001
Nationality	-.24	-.49	-6.79	<.001
Big Five Social compatibility	-.09	-.30	-5.6	<.001
Emotional stability	-.06	-.13	-2.54	.011
Coping strategies (nco)	.06	.119	2.25	.025

Note R^2 =.034 for Step 1(ρ< .001); for Step 2 R^2 =.104 (ρ< .001); Step 3 R^2 =.095(ρ< .001); Step 4 R^2=.028 (ρ< .001); Total R^2= .27.

(Note: All the significant variables included in the model by stepwise regression analysis method, SPSS)

Stress response (social) was found to be the significant predictor of internalisation (positive self). It explained 3% of the variance (R^2 =0.34, F (1,310) = 10.85, p<.001) due to social stress. The inclusion of nationality increased the variance from 3% to 10% (R^2 =0.104, F_{change} (1,309) = 37.33, p<.001).

The inclusion of social compatibility, resulted in an additional 9% (R^2 =0.104, F_{change} (1,308) = 37.93, p<0.001) of variance.

The inclusion of emotional stability resulted 8% (R^2 =0.028, F_{change} (1,307) = 11.62, p<.001).

Lastly inclusion of negative coping strategies bring 1% of variance (R^2 =0.012, F_{change} (1,306) = 5.08, p<0.001).in dependent variable Positive self (internalisation).The total variance R^2 =0.26 or 26%.

To summarize variance in internalisation variable Negaitive self significantly predicted by social stress and personality traits (social compatibility and emotional stability) negative coping styles, and nationality.

Social stress with a significant main effect t (309) = 3.89, p<.001and negative coping styles t (308) =2.25 p<.02 predicts internalisation in both ethnic groups For the IV Nationality a significant negative standardized beta β=-.49 showed that increase in nationality difference were negatively correalted with internalisation. The significant IV personality styles Big Five Social compatibility β=-.-.13 and Emotional stability with e β=-.12 showed that personality styles moderate or reduce the outcome of internalisation across both ethnic groups.

These findings support the hypothesis Social stress and negative coping contribute to the outcome of psychopathology (internalisation) in Children and adolescents, the personality styles modiate and coping strategies moderate and mediate the outcome of psychopathology in both groups.

Maladaptive coping startegies (negatively correlated) with personality traits and ethnicity of the group revealed that Psychopathology outcome was moderated because of nationality differences and personalty traits.

In order to examine hypothesis that academic and social stress (daily hassles) ,coping strategies ,personality styles along with nationality, gender, and grade variables

contribute to externalisation a regression analysis was conducted. To examine the independent and relative contribution of each predictor variable the regression model resulted in four steps.

Table 5.30b. Hierarchical Multiple Regression Analysis for Variables Interacting to predict Child-reported externalising behavior problems for N=312

Variables	B	β	t	p
Step 1				
SR (academic)	.083	.274	5.02	<.001
Step 2				
SR (academic)	.064	.211	3.47	<.001
SR (social)	.07	.206	3.65	<.001
Step 3				
SR (academic)	.05	.18	3.25	<.001
SR (social)	.05	.15	2.70	<.001
Big Five Social compatibility	.08	-.26	-4.94	.007
Step 4				
SR (social)	.062	.18	3.37	.001
Nationality	.06	.16	-6.69	.003
Big Five Social compatibility	-.07	-.24	-4.54	.000
Problem-focused coping	-.052	-.14	-2.78	.006

Note R^2 =.075 for Step 1(ρ< .001); for Step 2 R^2 =.038 (ρ< .001); Step 3 R^2 =.065(ρ< .001); Total R^2= 0.19

The total variance explained by the entire set of variables was .19% (R^2 =.19, F (1,307) = 7.727, p<.001) and is significant. At step, one control variable Stress response (academic) was found to be the significant predictor of externalisation. It explained 7%

of the variance (R^2 =0.075, F (1,310) = 25.20, p<.001) due to academic stress. The inclusion of social stress decrease the variance from 7% to 4% (R^2 =.038, F_{change} (1,309) = 13.37, p<0.00). At step three the interaction effect of social compatibility, resulted in 6% (R^2 =0.065, F_{change} (1,308) = 24.45, p<0.00). At step 4 the inclusion of problem-focused coping resulted in 20% (R^2 =0.02, F_{change} (1,307) = 7.727, p<.001) variance in dependent variable. Academic stress, social compatibility, and problem-focused coping significantly predicted variance in externalisation.

To summarize academic stress t (310) =, 211 p<.001 and social stress t (310) =, 206 p<.001 with significant main effect predict externalisation in children and adolescents. Social compatibility and problem-focused coping with negative standardized β=-.244 and β=-.144 respectively showed significant moderating and mediating effects of personality and problem-focused coping across both ethnic groups. None of the other IV found significant.

6. Discussion

The purpose of this study was to investigate relations between perceived daily stress, Coping strategies, personality traits, and psychopathology (internalisation and externalisation) among European (German, Austrian) and Asian (Pakistani) schoolchildren and adolescents. This study was guided by two theoretical orientations, general conceptual model for the etiology of psychopathology postulated by Grant et al. (2003) and research findings by Hampel et al. (2004). The findings of this study indicated that European and Asian children and adolescents differ in their perception of stress and outcome of psychopathology.

A total of 312 students answered the stress coping questionnaire for children and adolescents (SVF-KJ) and the scale of Perceived stress (SR) from the stress inventory for children and adolescents (SR-KJ). With the help of Reynolds Adolescent Adjustment Screening Inventory, (Raasi) psychopathology was tested. The personality traits assessed with the five-factor questionnaire (FFFK-S). The differential hypotheses analyzed by multivariate analysis of variance followed by univariate analysis of variance.

6.1. Summary of results and classifcation in literature

The following section explained the results of hypothesis testing. Overall nationality, age, and gender differences are evident .The nationality, age (grade) and gender of the participants significantly influenced the tendency of children and adolescents for the above-mentioned variables. Significant main and interaction effects revealed the differences between both groups regarding use of coping strategies, perceived stress, and impact of personality traits and outcome of psychopathology.

6.1.1. Gender

With regard to gender differences, the results showed that females use more maladaptive coping strategy Rumination as compared to males. This finding fits well into the existing literature as according to Hampel et al, (2001) females tend to use more maladaptive or unfavorable patterns of coping (Bauer, 2003: Compas et al, 1988; Seiffge-Krenke, 2000).

The effect of gender differences for internalisation and externalisation revealed that males have behavior that is more aggressive, Anger control problems, and Negative self. Possibly adolescent males have a greater psychological and emotional investment in interpersonal success, as reflected in high levels of worry and distress associated with peer relationships and academic achievements. Moreover, males are more likely to blame themselves for relationship problems and are more concerned about negative evaluation by peers. Studies have found that externalising behavioral problems are more prevalent in males than in females (e.g. Offord et al., 1987) Males showed high correlations between conflict and externalising behaviors. Longitudinal studies have demonstrated the influences of family and peer conflict and rejection in precipitating externalising psychopathology (Parker & Asher 1987; Laursen & Collins, 1994).

The personality traits comparison revealed that females reported significantly higher Conscientiousness as compared to males, this finding come in line with Soto et al, (2010) research on age and gender differences in personality traits. As reported by Soto et al, (2010) for Conscientiousness small gender difference in Self-Discipline was present in early adolescence and emerging adulthood. Females were found more orderly than males, on average, at each age from 10 to 65. Furthermore in childhood, girls typically exhibit higher levels of conscientiousness (i.e., are more planful) than boys (Else-Quest et al., 2006). This sex difference may not be due entirely to sex, but rather may be due to prenatal hormonal exposure that occurs in sex-specific patterns. Further, boys may be at increased risk for ADHD due to their lower levels of conscientiousness, a finding in line with the vulnerability or spectrum hypotheses of personality–psychopathology relations. For example, girls may be relatively protected

from the development of ADHD due to their higher levels of conscientiousness in childhood (Watson et al., 2006).

Conscientiousness predicts low stress exposure (Lee-Baggley et al. 2005, Vollrath 2001), probably because conscientious persons plan for predictable stressors and avoid impulsive actions that can lead to financial, health, or interpersonal problems. In addition, conscientious individuals have lower overall levels of stress exposure and thus less need for engagement coping (Conner-Smith and Carver, 2010).

6.1.2. Nationality

The comparison of both nationalities showed that Asian group uses a combination of adaptive and maladaptive coping strategies. The Asian children and adolescent reported the use of Distraction, Minimization, and Resignation. On the other hand European group use more Rumination as compared to Asians. Bardi and Guerra (2010) in their study reported that Coping by religion and emotion-focused/avoidance coping are more frequently used in non-Western cultural groups. Park, Armeli, and Tennen (2004) found that perception of low controllability was associated with using emotion-focused coping and avoidance, and this may apply to cultures high on embeddedness and hierarchy, particularly as such, cultures view individuals as less agentic (Menon, Morris, Chiu, & Hong, 1999).

Furthermore, cultures high on embeddedness (social acceptance, family) and hierarchy might be more tolerant of emotion-focused and avoidant coping, as this is a way to alleviate distress temporarily without violating norms, which is crucial in such cultures (Matsumoto, 2007), for example Asian culture.

The reaction to stress emotional and behavioral problems Asian group have more externalisation problem, Aggressive behavior while European group reported higher level of Negative self. Davies and Forman (2002) propose that some children may actually cope better with conflict by masking their distress in an effort to inhibit overt expressions of distress and reduce the motivation to intervene in conflict (stress). Masking distress may be immediately adaptive because it reduces the possibility of the

child's becoming a target of hostility, but in the long term, the inhibition of emotional expression can be associated with adjustment problems, including internalising symptoms and externalising problems (Davies & Forman, 2002). Involvement in conflict therefore appears to place children at risk for psychological maladjustment, while strategies that reflect avoidance of arguments may be differentially adaptive for children, depending on the cognitive processes underlying these strategies (e.g., use of self-calming or distraction activity).

Shelton and Harold (2008) used a three-wave longitudinal design, examined adolescents' cognitive appraisals and coping strategies following exposure to interparental conflict and their long-term symptoms of emotional and behavioral distress. Participants were 252 adolescents (122 boys, 130 girls; ages 11 to 12 years in the 1st year of the study), their parents, and their teachers. Children's appraisals and coping strategies were in turn related to their internalising symptoms and externalising problems.

This evidence suggested that children who were exposed to frequent, intense, and poorly resolved conflicts are at greater risk for heightened internalising symptoms (e.g., Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Harold, Fincham, Osbourne, & Conger, 1997), externalising problems (e.g., Grych, Fincham, Jouriles, & McDonald, 2000; Harold & Conger, 1997), and poor academic achievement.

6.1.3. Gender*nationality

European males reported significantly higher Seeking social support coping strategy. Asian group use no social support to cope with daily hassles. As adults and children of individualistic cultures, such as Euro-Americans and Germans, were more likely to use action-oriented and problem-focused coping (Cole et al., 2002). Taylor et al. (2004) found that European Americans tend to seek social support more than Asians and Asian Americans do when coping with difficulties.

Response to perceived stress showed that Asian males reported significantly higher social and academic stress as compared to females. This finding got support from the previous research (Hampel and Petermann, 2004; Rudolph & Hammen, 2000;

Washburn et al, 2003) that, females perceived less social and academic stress as compared to males.

Furthermore the gender*nationality interaction revealed that European and Asian females reported more emotional stability as compared to males. Ruiz (2005) examined the relationship between scores on Emotional Stability and on two cognitive coping strategies Positive Thinking and Wishful Thinking and the consequences of coping scale in a group of 99 Spanish undergraduates. Positive Thinking was associated with high Emotional Stability and positive consequences, whereas Wishful Thinking was associated with low Emotional Stability and negative consequences (Ruiz, 2005).Thus adaptive coping strategies found positively correlated with emotional stability that leads to positive adjustment.

6.1.4. Grade*nationality

European males graded 8/9 reported significantly higher Conscientiousness as compared to Asian males. Age-related declines in neuroticism and increases in agreeableness and conscientiousness (McCrae et al. 2000, Roberts & Del Vecchio 2000) may lead individuals to experience less distress and thus less variability in coping.

6.1.5. Gender* grade*nationality

Pair wise comparison revealed that Asian females grade 6/7 and grade 8/9 reported significantly higher academic stress as compared to males of the respective grades. For German males and females, the difference was not significant for both grades levels. According to Hampel (2004), Fifth graders scored lower on maladaptive coping strategies and externalizing problems and reported more adaptive coping strategies than sixth and seventh graders. Compared with boys, girls evaluated a higher amount of perceived interpersonal stress additionally, girls scored higher on maladaptive coping strategies and emotional distress.

Asian females' grade 6/7 reported more ***Extraversion***, as compared to European females.

European males' grade 6/7 reported significantly higher ***Social compatibility*** as compared to grade 8/9 males.

Although ***Openness*** was found significant for both comparison groups but pairwise comparison revealed European males grade 6/7 and 8/9 reported significantly higher openness as compared to Asian males.

Pairwise comparison revealed that Asian females grade 6/7 reported significantly higher Openness as compared to both grades and nationalities.

This finding is consistant with previous research as Extraversion, on the other side, has reported to be associated with better emotional adaptation with regard to stressful situations (McCrae & Costa, 1986; Watson & Clark, 1997).

Extraversion, conscientiousness, and openness all relate to perceiving events as challenges rather than threats and to positive appraisals of coping resources (Penley & Tomaka 2002, Vollrath 2001).

Extraversion, grounded in an approach temperament, involves sensitivity to reward, positive emotions, sociability, assertiveness, and high energy (Caspi et al. 2005, McCrae & John 1992, Rothbart & Hwang 2005). Strong approach tendencies and assertiveness should provide the energy required to initiate and persist in problem solving (Lengua et al. 1999, Vollrath 2001); positive affect should facilitate cognitive restructuring; and an orientation toward others and access to a social network should facilitate social support coping.

Although less research has been conducted on relations between agreeableness and adjustment, agreeableness is associated with greater subjective well-being (Steel et al. 2008) and lower risk for clinical symptoms, particularly externalising problems (Malouff et al. 2005) and suicide attempts (Brezo et al. 2006). Although openness to experience is largely unrelated to clinical symptoms and subjective well-being, it is associated with positive affect (Malouff et al. 2005, Steel et al. 2008). Relations between personality and adjustment appear relatively consistent across methodologies, informant, age, and sex (Malouff et al. 2005, Steel et al. 2008), but may differ slightly across cultures (Ozer & Benet-Martínez, 2006).

6.1.6. Hypotheses generating results

Although multivariate analysis did not reveal significant effects for Grade*nationality B*C and the two-fold interactions**.** Post-hoc derived univariate analysis yielded two effects.

First the hypotheses generating interaction B*C indicated that Asian group grade 6/7 and 8/9 showed more Distraction for grade*nationality univariate analysis. Second the hypothesis generating results the A*B*C univariate main effect pointed that European males and females of both grades seek more social support as compared to Asian males and females. The dependent variable Emotional distress was found significant for **gender*nationality A*C** interaction. The hypotheses generating results indicated that Europeans males and females reported more Emotional distress as compared to Asian males and females.

6.1.7. Model testing

The adapted Model for etiology of psychopathology by Grant et al (2003) was tested**.**The analysis for first research question, Stressors contribute to psychopathology and perceived stress (daily hassles), along with nationality, personality styles and employed coping strategies are significant predictors of psychopathology (internalisation and externalisation) in children and adolescence was supported.

Social stress and negative coping styles predicts internalisation in both ethnic groups' personality styles Social compatibility and Emotional stability with showed that personality styles moderate or reduce the outcome of internalisation across both ethnic groups.

These findings support the hypothesis Social stress and negative coping contribute to the outcome of psychopathology (internalisation) in children and adolescents, the personality styles moderate and coping strategies moderate and mediate the outcome of psychopathology in both groups.

Maladaptive coping strategies (negatively correlated) with personality traits and ethnicity of the group revealed that psychopathology outcome was moderated because of nationality differences and personality traits.

Academic and social stress with significant main effect predicts externalisation in children and adolescents. Social compatibility and problem-focused coping respectively showed significant moderating and mediating effects of personality and problem-focused coping across both ethnic groups (Holahan et al, 2005; Penland et al, 2000; Wijndaele et al, 2007). Studies have shown that use of multiple coping responses (flexibility) is a predictor of positive psychological adjustment (Caplan, Bennetto, & Weissberg, 1991; Holahan & Moos, 1987; Siegel, 1983). This finding got support by previous research as Pincus and Friedman (2004) analyzed a number of studies reporting that for positive adjustment of children use of multiple coping responses (flexibility) is a predictor of positive psychological adjustment (Caplan, Bennetto, & Weissberg, 1991; Holahan & Moos, 1987; Siegel, 1983).

Problem-focused coping appears to be associated with reduced depressive symptoms as this style actively removes or resolves stressors (Carver et al., 1989).

This finding is consistent with the reciprocal model of Grant et al (2003). Stress is defined in terms of the relationship between the person and environment; also, individuals are continuously assessing their relationship with the environment in regards to their well being in other words, culture, and ethnicity. As both groups belong to completely different cultures and social systems it was evident that the pattern of coping and personality variables were significantly influenced by these variables like the family background socioeconomic status, religious beliefs, education system, peace, and stability, in the country.

The tested model got support from previous research by Grant et al (2005) and Elgar, Arlett and Groves study (2003) in which rural/urban differences were studied in self-reported stress (life events, daily hassles and conflict), coping and behavioral problems in a community sample of adolescents. Despite challenging socioeconomic conditions in rural areas, levels of stress and ways of coping were similar in rural and urban adolescents. However, urban males reported more conflict and externalising behaviors

than females and rural males. Stress, coping, and behavioral problems were interrelated but approach coping did not moderate the influence of stress on psychological functioning.

6.2. Limitations and strengths of the current study

Some strengths and limitations of this study need to be noted. One limitation is that the study is correlational and reciprocal and thus causality cannot be measured and interpreted. The results need to be interpreted with caution as a number of factors could be involved in influencing psychopathology, for example, there may be an underlying dimension that explains personality, coping, and psychopathology.

The reciprocal correlational nature of the study also means it is difficult to determine the direction of the relationship. It is possible that the presence of psychopathology can lead to more maladaptive personalities and coping styles rather than the other way around.

The use of self-report measures also has a number of strengths associated with it. The majority of studies in the personality and coping literature gather data using self-report measures therefore; it is easier to compare studies as they have similar methodologies.

Self-report questionnaires are also desirable; as they require fewer resources, (e.g. they remove the need for a clinician to conduct interviews and analyze data or to perform experiments on subjects).

The longest questionnaire used in the study the Coping strategies SVJ-KS contained validity questions that indicated whether participants were randomly answering questions. This also suggests that the majority of the questionnaires were valid for example RAASI, Stress response, and coping scale.

An additional limitation is that over half of the participants took part in the study because teachers forced them. It is possible they viewed taking part in the study as purely a means for gaining acceptance in their group therefore; they may not have

tried to be as accurate in their reports as possible. It is difficult to measure this however, and certainly, the same limitation could be applied to studies that pay participants for their time.

Another potential problem with self-report measures is that there may be differences between researcher-derived definitions of constructs (e.g. coping) and participants' understanding of the questionnaire. However, participants were given the opportunity to ask the researcher questions if they did not understand or were confused. In addition, participants were selected from a good educated sample thus ensuring misunderstandings would be minimized.

Another limitation to the self-report method is that participants' coping styles, personality, and levels of psychopathology were only measured once. Thus, any changes over time were not recorded. In order to assess stability over time all measures could be repeated.

Furthermore, interview methods could be used to measure the different variables as well as self-report measures. This would add more reliability to the study and provide information about the relationship between personality, coping styles and increase and decrease in symptoms of psychopathology over time. As the most high-risk group, the sixth and seventh grade children from Pakistan need to have further assessment and implication of a training program to improve their coping styles

Another possible limitation of the study is that participants' social desirability could have influenced their reporting. A social desirability measure was not included in the current study because there were time constraints, also the Asian data was collected to be compared with already collected German and Austrian data, it was practically not possible to include Religious belief and social desirability measures later on. Social desirability may be an important construct as over half of the participants (131) were Pakistani school students. School students may be more aware that answering the question like aggressive behaviors or depressive moods means that they are not socially desirable in their age group and class, thus when answering the SVJ-KS they could have tried to present themselves in a more socially desirable light.

It is most likely that as school students, they would have little knowledge of psychological constructs such as coping styles and personality; therefore, it is unlikely their answers were biased but most likely modified to be more socially desirable. In addition, as an Islamic democratic state religion is a very strong part of routine life, when something is not in control and solved by human power it has to be left to God s wills. The validity of this study could be improved however, through the inclusion of a social desirability, and religious beliefs measure

A further limitation is that the current study has focused on the associations between coping strategies and stress whilst ignoring any possible interactions between copings strategies themselves. By primarily focusing on the relationship between coping strategies and psychopathology and stress, this study can only explain part of the complex relationship between coping styles and psychopathology. Further research need to be conducted to analyze the interactions between coping strategies, as research to date suggests that coping strategies do not operate in isolation to one another but interact and influence one another. Future studies are needed to examine whether these interactions between coping styles influence levels of stress, and psychopathology. Research could also examine whether the interactions between coping styles change over time.

Another limitation is that this sample was primarily comprised of Pakistani and European children and adolescents from middle class S.E.S. families. It is unclear whether the findings can be generalized to other populations. The criterion measure was based on the adolescents' self-reports, and future research should include more objective indices of variables and use multiple indicators.

The adolescents' responses were determined via questionnaires, and it is unclear if the results obtained would be replicated with an interview methodology or longitudinal study, which potentially might clarify the context of experienced events. In all retrospective studies, there is the issue of accuracy in self-report and psychopathology.

Despite its limitations, this study adds significant new insights in understanding mediating factors between stressful life events and outcome of psychopathology, especially, the link between stressful life events and personal resources, and the link between the personal resources and environmental resources. The general findings and related results have implications for parents and professionals who work with adolescents. First, the data suggest that, since stressors themselves are related to reducing personal coping resources and then reducing environment resources, coping resources of stressed adolescents should be carefully monitored and actively supported.

The present study raises important issues regarding the relationship between stressful life events and psychosocial development, between psychosocial development and social support, and between psychosocial development and psychopathology that have received too little attention in research as personal coping resources.

The findings of this study have the implications for the development of interventions to prevent delinquency in adolescents experiencing highly stressful life situations. It is desirable to focus on coping skills that are relevant for dealing with general life stressors in order to reduce delinquency. This will not only help the adolescents directly, it will also increase the likelihood that the adolescents will reach out to others for support.

Further research on mediating factors between stressful life events and delinquent behavior is recommended in the following directions. The validity of adolescents' life-event reporting should be investigated by comparing adolescents' self-reports with the reports of parents, siblings, and close friends. In addition, because most studies of children and adolescents, including the present study, have utilized a cross-sectional approach, inferences concerning causality are unwarranted.

Furthermore, future longitudinal research is needed to assess further the cross-temporal and bidirectional nature of the interrelations among variables investigated in this study, and to chart developmental pathways toward or away from escalating levels of problem behaviors. A related issue that deserves attention is the

relationship between life stress experienced by adolescents and their peers. In addition, future research with varying age groups is important.

In conclusion, the findings of this study indicate that the impact of stressful life events on delinquent behavior mediated by personal and social coping resources. Escalating stressful life events were positively associated with psychopathology. The experience of negative life events appears to be the contributor to low personal resources. The low levels of personal resources (personality styles, environment, culture, parental support etc) are powerful contributors to the low levels of coping skills that, in turn, predict higher levels of psychopathology among children and adolescents

7. References

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Appendix A

List of Tables

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Appendix C: Table 1

DescriptiveStatistics

	N	Min	Max	Sum	Mittelwert		SE	Varianc e	Schiefe		Kurtosis	
					M	SD				SE		SE
Nationality	312	1	2	443	1,42	,028	,494	,244	,326	,138	-1,906	,275
Sex	312	0	1	149	,48	,028	,500	,250	,090	,138	-2,005	,275
6/7 vs. 8/9	312	1	2	455	1,46	,028	,499	,249	,168	,138	-1,985	,275
abl_11	312	,00	4,00	777,00	2,4904	,05213	,92086	,848	-,209	,138	-,896	,275
ver_11	312	,00	4,00	497,75	1,5954	,05278	,93236	,869	,624	,138	-,213	,275
stk_11	312	,00	4,00	845,25	2,7091	,04923	,86958	,756	-,785	,138	-,002	,275
bag_11	312	,00	4,00	737,75	2,3646	,05471	,96642	,934	-,169	,138	-,969	,275
res_11	312	,00	3,75	397,00	1,2724	,04775	,84339	,711	,826	,138	,607	,275
pos_11	312	,00	4,00	853,75	2,7364	,05206	,91961	,846	-,658	,138	-,323	,275
agg_11	312	,00	4,00	543,00	1,7404	,05001	,88343	,780	,595	,138	-,114	,275
ged_11	312	,00	4,00	582,75	1,8678	,05201	,91869	,844	,536	,138	-,516	,275
sub_11	312	,00	4,00	776,25	2,4880	,05872	1,03712	1,076	-,388	,138	-,874	,275
rs_ab_1	312	,00	1,75	143,38	,4595	,01983	,35029	,123	,793	,138	,512	,275
AB	312	,00	1,75	154,88	,4964	,01912	,33776	,114	,746	,138	,497	,275
AC	312	,00	1,80	173,40	,5558	,02204	,38928	,152	1,009	,138	,817	,275
ED	312	,00	2,00	262,33	,8408	,02967	,52410	,275	,495	,138	-,683	,275
PS	312	,00	1,75	206,75	,6627	,01912	,33776	,114	,515	,138	-,056	,275
EXT	312	,00	1,63	149,13	,4780	,01702	,30071	,090	,835	,138	1,046	,275
INT	312	,00	1,53	177,94	,5703	,01514	,26742	,072	,496	,138	,378	,275
SR_soc_1	312	,00	4,00	506,25	1,6226	,05338	,94290	,889	,784	,138	,028	,275
SR_aca_1	312	,50	4,00	706,00	2,2628	,05628	,99407	,988	,437	,138	-,834	,275
nco_11	312	,13	3,69	505,13	1,6190	,03804	,67200	,452	,598	,138	-,119	,275
prb_11	312	,08	4,00	825,08	2,6445	,04685	,82748	,685	-,741	,138	-,052	,275
emo_11	312	,13	4,00	757,38	2,4275	,04829	,85305	,728	-,039	,138	-,874	,275
extr_mn1	312	-49,00	5,00	1005,75	3,2236	,17524	3,09527	9,581	-15,528	,138	262,626	,275
est_mn1	312	-49,00	5,00	1044,25	3,3470	,17277	3,05174	9,313	-16,325	,138	280,767	,275
sove_mn1	312	-49,00	5,00	952,50	3,0529	,17435	3,07960	9,484	-15,614	,138	264,546	,275
gew_mn1	182	-49,00	5,00	550,50	3,0247	,29318	3,95521	15,644	-12,703	,180	167,909	,358
kult_n1	312	1,00	5,00	992,00	3,1795	,06137	1,08401	1,175	-,313	,138	-,835	,275
Valid Werte (Listenwise)	182											

Appendix D

Questionnaire booklet : SR items, Coping strategies SVF-JK, RAASI and FFFK-S.

Questionnaire for Children and Adolescents

○ Girl ○ Boy

I am ☐☐ years old

I am attending the ☐ class

I have ☐ sister(s) ☐ brother(s)

I am ○ catholic

○ muslim

○ _____

Now we want to know, how strongly you feel bothered by stressful situations.

Your task is:

1. On the next page you find eight stressful situations.
2. Please imagine, that /you are in this situation/ this situation is happening/ now.
3. Put a check mark for each situation, how much you do feel bothered by this problem.

An example:

This situation ...	... bothers me				
„I have to hold a talk in front of the class!“	○	○	○	○	○
	not at all	a little	somewhat	strongly	very strongly

1. Imagine, that you have to deal with each situation **just now**.
2. Mark for each situation, **how strongly** you do feel bothered by this problem.

This situation ...	... bothers me				
1. I have to do too much homework!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
2. I have troubles with my teacher!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
3. guess I, another child or adolescent makes malicious remarks about me!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
4. I have to write a difficult exam!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly

5. I have an argument with my parents!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
6. I want to get a very good note/grade in my written exam!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
7. I have an argument with my best friend!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly
8. I cannot follow the lesson at school!	○ not at all	○ a little	○ somewhat	○ strongly	○ very strongly

Now we want to know, how you deal with **situations**, by which you **feel pressured**.

Your next task is:

Imagine, that the situation is happening **now**!

Please put a check mark on your answer.

An example:

„I have to work on the blackboard in front of my class!“

„If this is happening, than ...

... I try to keep cool!“

○	○	○	○	○
not at all	rather no	perhaps	rather yes	in any case

If

other adolescents are bothering me and I do feel excited…

An example:

- because I have an argument with my best friend ...
- because others are making malicious remarks on me ...

If other adolescents are bothering me and I do feel excited, than ...

1. ...	I imagine something really funny!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
2. ...	I´d like to get out of it!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
3. ...	I´m making a plan to fix the problem!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
4. ...	I say to myself: It isn't so serious!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
5. ...	I keep in my mind: Whatever I do is really useless!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
6. ...	I say to myself: I know, I can solve the problem!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
7. ...	I start quarreling with somebody, who bumped into me!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

8. ...	It´s hard for me to think of anything else!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
9. ...	I´m letting somebody help me!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

If other adolescents are bothering me and I do feel excited, than ...

10. ...	I want to give up!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
11. ...	I keep in mind: It isn't a big deal!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
12. ...	I say to myself: I´ll get that under control!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
13. ...	I´d like to stay in bed!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
14. ...	I´m asking for somebody´s advice!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

15. ...	the situation rushes into my mind over and over again!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
16. ...	I try to figure out, what the problem is!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
17. ...	I´m getting a bad temper!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
18. ...	I'm reading something, that's fun!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

If other adolescents are bothering me and I do feel excited, than ...

19. ...	I´d like to stay away from the situation!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
20. ...	I´m wondering what to do!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
21. ...	I´d like to explode!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
22. ...	I´m asking somebody, what to do!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
23. ...	I assure myself: I can bring it to a good end!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

24. ...	I keep on worrying and thinking about the situation!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
25. ...	I´m listening to music!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
26. ...	I say to myself: It isn't as bad as all that!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
27. ...	everything I do is senseless!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

If other adolescents are bothering me and I do feel excited, than ...

28. ...	I´m talking to somebody about that!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
29. ...	I´m grumbling about everything!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
30. ...	first, I´m going to make myself comfortable!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
31. ...	I´m doing something to fix the problem!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
32. ...	my thoughts are revolving only around that thing!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

33. ...	I keep on thinking: It´s really pointless!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
34. ...	I keep in mind: Life will be better tomorrow!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
35. ...	I´d like to pretend to be ill!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case
36. ...	I say to myself: I can make it!	○ not at all	○ rather no	○ perhaps	○ rather yes	○ in any case

Please mark, how you felt/were/
in the **last week**.

never	on 0 days
rare	on 1-2 days
sometimes	on 3-4 days
often	on 5-6 days
ever	in the whole week

	never	rare	sometimes	often	ever
1. How often did you have headache in the last week?	○	○	○	○	○
2. How often did you have stomach pain in the last week?	○	○	○	○	○

3. How often could you not fall asleep in the last week, because you were worried [about something]?	○ never	○ rare	○ sometimes	○ often	○ ever

RAASI

This questionnaire is designed to find out the types of problems that people have sometimes. The statements in this booklet describe how people feel about themselves, others, and the world around them. The statements ask you how you have been feeling for the last **6 months.** When answering the questions, please be sure to keep the 6 months time period in mind. To answer each statement, circle the number that indicates your answer.

Example:

”In the past 6 months“...

... I enjoyed watching television.	O Never or almost never	O sometimes	O Nearly all the time

► There are no right or wrong answers**!**

► Just answer how you have been feeling**.**

▶ **In the past 6 months ...**

01) I felt that everything was ok. in my life.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
02) I argued with my teachers or parents.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
03) I used drugs or alcohol.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
04) I enjoyed getting together with my friends or family	0 Never or almost never	0 Sometimes …	0 Nearly all the time
05) I lost my temper.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
06) I felt good about myself.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
07) I argued with adults.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
08) I did what adults asked me to do.	0 Never or almost never	0 Sometimes …	0 Nearly all the time

09) I did things to bother people.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
10) If someone told me to do something I did the opposite.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
11) I felt very angry.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
12) I felt like getting back at others.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
13) I broke the rules at school or at home.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
14) At night, I stayed out later when I was allowed.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
15) I got so mad that I threw things at home or at school.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
16) I felt comfortable meeting new people.	0 Never or almost never	0 Sometimes …	0 Nearly all the time

▶ **In the past 6 months…**

17) I did things that were against law.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
18) I was very lonely.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
19) I had fun with friends.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
20) I felt very tense.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
21) I got into trouble at school or at home.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
22) I felt nervous.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
23) I felt depressed or sad.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
24) I stayed away from home without telling my parents where I was.	0 Never or almost never	0 Sometimes …	0 Nearly all the time

25) I did not study or turn in my homework.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
26) I worried about a lot of things.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
27) I worried a lot about the future.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
28) I had trouble falling asleep.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
29) I felt upset.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
30) I had trouble concentrating.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
31) I felt like crying for no reason.	0 Never or almost never	0 Sometimes …	0 Nearly all the time
32) I did something I knew was bad.	0 Never or almost never	0 Sometimes …	0 Nearly all the time

Auf der nächsten Seite findest du Eigenschaftswörter. Es sind Gegensatzpaare, die beschreiben, wie jemand sein kann.

Zum Beispiel lautet ein Gegensatzpaar:

1.	phantasievoll	1	2	3	4	5	einfach

In diesem Beispiel bedeuten die Zahlen:

1 sehr phantasievoll, gar nicht einfach

2 eher phantasievoll als einfach

3 weder phantasievoll noch einfach

4 eher einfach als phantasievoll

5 sehr einfach, gar nicht phantasievoll

Lese jedes Gegensatzpaar und entscheide dann, welche der fünf Möglichkeiten dich am besten beschreibt. Kreuze die entsprechende Zahl an.

1.	phantasievoll	1	2	3	X	5	einfach

Weil Menschen unterschiedlich sind, gibt es keine falsche oder richtige Antwort.

Aber es gibt immer nur eine Antwort, die jemanden am besten beschreibt.

1.	ungesellig	1	2	3	4	5	kontaktfreudig
2.	nervös	1	2	3	4	5	gelassen
3.	friedlich	1	2	3	4	5	streitlustig
4.	sorgfältig	1	2	3	4	5	unsorgfältig
5.	intelligent	1	2	3	4	5	unintelligent
6.	versöhnlich	1	2	3	4	5	rachsüchtig
7.	gesprächig	1	2	3	4	5	schweigsam
8.	angespannt	1	2	3	4	5	entspannt
9.	einfallslos	1	2	3	4	5	einfallsreich
10.	ungenau	1	2	3	4	5	übergenau
11.	selbstbewusst	1	2	3	4	5	verletzlich
12.	gewissenhaft	1	2	3	4	5	leichtsinnig
13.	informiert	1	2	3	4	5	unwissend
14.	zurückgezogen	1	2	3	4	5	gesellig
15.	zuvorkommend	1	2	3	4	5	unfreundlich
16.	wenig interessiert	1	2	3	4	5	vielseitig interessiert
17.	reizbar	1	2	3	4	5	gutmütig
18.	überempfindlich	1	2	3	4	5	ruhig
19.	faul	1	2	3	4	5	fleißig
20.	offen	1	2	3	4	5	zurückhaltend
21.	ordentlich	1	2	3	4	5	unordentlich
22.	ungebildet	1	2	3	4	5	kenntnisreich
23.	kontaktfreudig	1	2	3	4	5	zurückgezogen
24.	rücksichtslos	1	2	3	4	5	weichherzig
25.	unsicher	1	2	3	4	5	selbstbewusst

Did you check, that you answered each question?

Thanks alot

Ich versichere, dass ich diese Doktorarbeit selbstständig verfasst, andere als die angegebenen Quellen und Hilfsmittel nicht benutzt habe und mich auch sonst keiner unerlaubten Hilfe bedient habe.

Datum Unterschrift