Prevention and Early Intervention of Social Anxiety Disorder

Paula Barrett¹ and Marita Cooper²

¹School of Education, University of Queensland, St Lucia, Australia; Centre for Mental Health Research, Australian National University, Canberra, Australia; Pathways Health and Research Centre, West End, Queensland, Australia; ²Centre for Mental Health Research, Australian National University, Canberra, Australia; Pathways Health and Research Centre, West End, Queensland, Australia

Approximately one in five Australian adolescents report experiencing significant mental health difficulties and literature consensus indicates a downward trend with symptom onset at increasingly younger ages (Sawyer, Miller-Lewis, & Clark, 2007). Anxiety disorders, which represent a large proportion of mental health issues in young children, now have prevalence rates as high as one in three preschool-aged children (Anticich, Barrett, Silverman, Lacharez, & Gillies, 2013). In comparison to other mental health concerns, Social Anxiety Disorder (SAD) affects a large percentage of the population and can often have a chronic course. Population research indicates that meeting diagnosis for SAD can significantly predict lifetime suicidal ideation as well as previous suicide attempts (Cougle, Keough, Riccardi, & Sachs-Ericsson, 2009). Considering that risk factors implicated in the development of social anxiety can be identified from infancy, there is an increasing focus on the importance of preventative intervention programs for anxious symptomology (Dadds & Roth, 2008; Greenberg, Domitrovich, & Bumbarger, 2000).

Previous editions of this book have focused psychosocial and pharmacological treatment of SAD, so the inclusion of a chapter on prevention and early intervention of SAD is an important milestone for prevention research in the area. In this chapter, we aim to highlight the importance of prevention and early intervention when working with social anxiety disorder. Beginning with an overview of social anxiety, we then continue to discuss the development of social anxiety including risk and protective factors. This is followed by an overview of prevention methodology and incorporation of etiological factors into a preventative framework to provide a guide for practitioners working in prevention

and early intervention. Finally, we discuss three anxiety prevention programs including a detailed description of the FRIENDS protocol, an evidenced-based program with particularly robust support. This review is included along with research evaluating program outcomes for reducing anxious symptomology in children and adolescents using both a universal and selected/indicated prevention model. Finally the chapter concludes with recommendations for future directions in preventative research.

UNDERSTANDING SOCIAL ANXIETY

Social anxiety is best described as a continuum of anxious symptomology ranging from shyness and social fears to clinically diagnosable SAD (formerly social phobia). This continuum is characterized by physiological symptoms (such as increased heart rate, sweating, and blushing) cognitive symptoms (such as fear of negative evaluation) and behavioral symptoms (such as withdrawal or avoidance) in social or performance situations. Although many individuals experience social anxiety and shyness, these are typically differentiated from SAD by the impact of these on an individual's functioning and the amount of distress experienced. Interestingly, a recent population study found that even individuals with symptomatic and sub-threshold SAD reported significantly poorer life satisfaction, physical health, mental health, more clinical complaints and disability days over the past 12 months when compared to those not exhibiting symptoms of SAD (Fehm, Beesdo, Jacobi, & Fiedler, 2008).

In addition to the impact of SAD symptoms on overall wellbeing, SAD is also a prime target for early intervention due to its high prevalence rates, early onset, chronic course and high levels of comorbidity with other psychiatric diagnoses (Blanco et al., 2011; Fehm et al., 2008; Marques & Robinaugh, 2011; Schneier et al., 2010; Wiltink et al., 2011). For further exploration of these areas, as well as a more in depth review of the diagnosis and definition of social anxiety, please see chapter one by McNeil and Randall.

THE DEVELOPMENT OF SOCIAL ANXIETY

SAD is consistently reported in the top five most prevalent diagnoses in the population (Kessler, Berglund, Demler, Jin, & Walters, 2005; Wiltnik et al., 2011). Unfortunately, those seeking treatment are likely to have suffered with symptoms for an average of four years prior to seeking a referral (Wagner, Silove, Marnane, & Rouen, 2006). Aiming to reduce the prevalence and relative burden of SAD, literature has moved towards a focus on preventative interventions. Efficacious prevention programs rely on the use of a framework incorporating research-based risk and protective factors (Giesen, Searle, & Sawyer, 2007). As such, the following sections will review factors related to vulnerability and risk as well as protective factors identified for social anxiety. Many of these areas are also covered in more depth in later chapters of this edition.

Risk factors in the development of anxious symptomology

Risk factors are individual, familial and environmental characteristics that increase the likelihood of poorer developmental outcomes. An understanding of the mechanisms involved in the development, maintenance or exacerbation of social anxiety is vital to provide a framework for any successful intervention program. The etiology of internalizing disorders is commonly complex and can implicate not one but a chain of genetic, environmental, social, and psychological risk factors. In their definitive review, Rapee and Spence (2004) presented an empirically-based model of social phobia. The model highlights individual factors such as genetic vulnerability, behavioral inhibition, social skills difficulties; relational aspects including parent and peer influences; and environmental factors including negative life events and cultural influences. Following from Rapee and Spence's model, this section will review the role of negative life events, parental psychopathology and behavioral inhibition in the etiology of social anxiety. The remaining etiological mechanisms will be explored in the next section evaluating protective factors.

Negative life events are a consistently cited risk factor for later psychopathology. These life events may range from traumatic experiences such as witnessing domestic violence, experiencing abuse or natural disaster or more common life events such as bullying, job loss, and moving house. As with many other mental health concerns, individuals with social phobia report a greater number of negative life events than normative comparisons (Brown, Juster, Heimberg, & Winning, 1998). Interestingly, from Brown and colleagues' study (1998), the frequency of negative life events did not predict the severity of social anxiety, but rather the severity of comorbid symptoms including depression, hopelessness and generalized anxiety. Furthermore, although socially phobic individuals experienced more negative stressful life events than normal controls, both groups experienced the same number of stressful life events. This is consistent with interesting research by Low and colleagues (2012) who found that common life events, including feeling stressed or worried about your family relationships, friendships, schoolwork or your weight, were still related to deleterious mental health outcomes including substance use, affective problems and behavioral difficulties. Whilst both of these studies support links between stressful life events and mental health difficulties, they indicate that it may be an individual's negative appraisal of a stressful event, not society's, that is likely to lead to poorer health outcomes.

Unique from other negative life events, parental psychopathology is a separate risk factor with both genetic and environmental explanations commonly accepted as pathways to the development of childhood anxiety disorders. The heritability of internalizing disorders has been well established in family aggregation studies of both the offspring of anxious parents as well as the parents of anxious offspring (for a review see Drake & Ginsburg, 2012). Connell and Goodman's (2002) meta-analytic review examined associations between

parental psychopathology and both internalizing and externalizing disorders in children. From the 230 articles found on parental mental health concerns and childhood internalizing difficulties, it was found that both maternal and paternal psychopathology significantly predicted childhood symptomology (Connell & Goodman, 2002). Despite this, weighted mean effect sizes found from this study were small, and it was found that effects were moderated by child factors, including age and gender, as well as type of parental diagnosis (Connell & Goodman). This indicates that more than simply a direct relationship from parental psychopathology to child psychopathology, the interaction of parental influences and child influences is most likely to determine future symptomology.

Behavioral inhibition is recognized as one of the earliest identifiable risk factors for future anxious symptomology (Marysko, Finke, Wiebel, Resch, & Moehler, 2010). Kagan and colleagues (see Chapters 13 and 14 of this volume for further reading) defined behavioral inhibition as a temperamental trait characterized by heightened behavioral and emotional reactions to novel or unfamiliar stimuli (Kagan, Reznick, & Snidman, 1987). Behavioral inhibition has been shown to be one of the most genetically stable traits implicated in the development of anxious symptomology (Takahashi et al., 2007). In a recent meta-analysis by Clauss and Blackford (2012) behaviorally inhibited children had a significantly increased risk of developing SAD. Specifically, of all 246 children rated as behaviorally inhibited between the ages of two to seven years, 43% met criteria for SAD compared with 12% of non-inhibited children by the age of 15. Although there has been some controversy over whether the specific role of temperament extends further than familial predisposition towards anxious symptomology, Shamir-Essakow and colleagues (Shamir-Essakow, Ungerer, and Rapee, 2005) found that in a sample of 104 preschool-aged children, behavioral inhibition was still predictive of child anxiety, even when controlling for the effect of both attachment and maternal anxiety.

Protective factors in the development of social anxiety

Protective factors are personal, familial and community characteristics that reduce the likelihood of deleterious developmental outcomes. Unlike risk factors, protective factors can be manipulated for the basis of a preventative intervention. Protective factors may function by directly decreasing impairment, moderating/mediating risk factors to decrease their influence, and/or preventing initial risk factors or interrupting the link between risk factors and development of the disorder (Coie et al., 1993). The following section highlights key factors related to resilience and the decreased likelihood for developing social anxiety.

School curriculums worldwide have traditionally focused predominantly on the academic learning of children; however, in recent years there has been a shift towards teaching social and emotional skills in the classroom. Socioemotional competence is a key milestone in young children's future academic, psychological and social outcomes. According to the Collaborative for

Academic Social and Emotional Learning, socio-emotional competencies include: self-awareness, social awareness, self-management, relationship skills and responsible decision-making (CASEL, 2011). These skills provide us with the ability to establish and negotiate peer interactions successfully, develop a positive self-concept, and better understand and regulate our emotions. Although traditionally a heavily stressed factor in the development in social anxiety, social-emotional deficits have more recently become a topic of conflict in SAD literature. In a recent meta-analysis, O'Toole and colleagues (O'Toole, Hougaard & Mennin, 2013) found that SAD was linked to an inability to understand one's own emotions and the emotions of others. Despite this, several studies actually found increased understanding of the feelings of others in individuals with SAD. When specifically looking at social skills and SAD, Angelico and colleagues (2010) also noted frustration at a lack of well-designed studies to differentiate between an individual's actual levels of competence in social situations and negative self-appraisals, interpretive biases or heightened anxiety related to symptoms of SAD. As can be seen, the findings of even meta-analyses and critical reviews on the relationship between socio-emotional skills and SAD appear to struggle to find conclusive results.

Delays in socio-emotional skills are suggested to stem from difficulties in the parent-child attachment (McCabe & Almatura, 2011). Ainsworth (1989) defined attachment as the enduring emotional bond between two individuals. Since Bowlby's (1973) early attachment work, insecure attachment styles have been indicated in future emotional and behavioral difficulties. The development of positive attachments with primary caregivers is a fundamental milestone for future affective, cognitive and behavioral development. Stable, secure attachments enable children to feel comfortable, viewing the world as a safe and predictable place whereas disorganized or insecure attachments are related to feelings of general mistrust, abandonment, and heightened threat perception in a child's relationship with others and the world. Although initially a child will be dependent on an attachment figure for safety and reassurance, as he/ she develops, the child gradually internalizes this attachment bond. Considering that susceptibility to SAD is increased in offspring of parents with not only anxiety disorders but also depressive and substance use diagnoses (Knappe, Beesdo-Baum, & Wittchen, 2010), effects of parental psychopathology are likely to extend past genetic predisposition to also affect the parent-child bond. A broad review of familial factors by Knappe, Beesdo-Baum, and Wittchen (2010) highlighted that, in terms of familial transmission of anxiety, parents may affect childhood social anxiety through two mechanisms related to their attachment bond. Firstly, parents may influence their children towards a heightened threat perception through overconcern, negativity, overprotection and rejection. Additionally, parents may also prevent the attainment of coping skills via overprotection, restriction, low sociability and lack of emotional warmth. Through either mechanism, children are influenced to believe that the world is a dangerous place and they are ill equipped to deal with its challenges.

Social and emotional skills are also shaped by the development of positive peer relationships. Prosocial behaviors with peers are significantly related to decreased aggression, asocial behavior, exclusion, anxiety, hyperactivity, and victimization (Gulay, 2011). During adolescence, social contact with peers becomes the most important and frequent form of social interaction. However, youths with social anxiety often relate these interactions to experiences of intense fear, anxiety and potential humiliation. In an innovative study conducted utilizing analysis of social networks, van Zalk and colleagues (van Zalk, van Zalk, Kerr, & Stattin, 2011) explored peer relationships in adolescents with social anxiety. The authors found that youths typically befriended other youths with similar levels of social anxiety to themselves. Furthermore, social fears appeared to be reinforced by peers, with results indicating the friends could socialize their peers into becoming more socially anxious over time. Although peer attachments have been a previously under-researched aspect of attachment theory, a novel study by Laible, Carlo, and Raffaelli (2000) showed that reporting strong and secure attachments with peers predicts positive adjustment above either strong peer or parent attachment relationships alone.

Historically, attachment literature has predominantly focused on the importance of caregivers; however, a further key factor is connectedness to one's school and wider community. Humans have a biological need to develop and maintain strong and secure interpersonal relationships, and this does not end after childhood (Baumeister & Leary, 1994). According to Erikson's psychosocial stages (Erikson, 1950), young and middle adulthood periods are often defined by this search for attachment figures, whether in the form of partners, friendships or children. Building bonds with the community is one method of continuing to establish meaning and connectedness as we age. In particular for those with social anxiety, belongingness to one's school and community can offer opportunities for increased peer contact, establishing relationships across cultural and age divides, and access to positive role models and supports.

Summary of risk and protective factors for social anxiety

It is likely that social anxiety disorder has many more risk and protective factors than those outlined above. Furthermore, it is also likely that these risk and protective factors interact in complex relationships we do not yet understand. Although some research is still under conflict, in particular the relationship between socio-emotional competencies and SAD, there appears to be some evidence for Rapee and Spence's (2004) model of social anxiety. Future research would benefit from a greater understanding of the interaction of these factors, in particular the relationship between risk and protective factors in the development of social anxiety. Additionally, longitudinal research needs to be conducted to better understand the development of these symptoms into SAD.

PREVENTION AND EARLY INTERVENTION OF SOCIAL ANXIETY

Anxious symptomology has sparked interest in prevention efforts due to its often chronic and unremitting nature, high comorbidity rates, as well as the pervasive nature of impairment. In comparison to treatment programs that are implemented after the onset of a disorder, prevention programs can reduce the incidence of a mental health concern prior to onset. This means that positive coping skills are taught before maladaptive cognitive styles and behaviors are fully established. Furthermore, prevention programs have the benefit of simultaneously reducing negative outcomes including delinquency, substance use, psychopathology and violence as well as promoting and enhancing well-being and resiliency (Greenberg et al., 2000). Whilst medical systems place equal importance on treatment and prevention initiatives, evidence-based prevention programs are under-recognized and under-implemented within mental health care systems (Giesen et al., 2007). This section aims to provide a brief overview of considerations when utilizing a preventative approach.

Types of prevention

There are three targets of preventative intervention: Universal (targeted at the whole population irrespective of risk), Selective (targeted at individuals or groups at heightened risk for symptomology) and Indicated (targeted at individuals exhibiting mild symptoms). Whilst there are pros and cons to each of these approaches, universal prevention programs have the added benefit or reducing stigma associated with mental health interventions, are proactive and positive, and reach a greater range of individuals. In terms of settings, universal approaches can also be administered in schools to promote wellbeing both to wider populations as well as over consecutive years to reinforce learning.

Additionally, Winett (1995) proposed five levels of prevention: personal, group, organizational, community and institutional. It is widely recognized that a multi-level approach to prevention is required for sustainable change. Despite this, most preventative efforts in mental health fields work at the personal level (working with individuals to build coping skills) or commonly in younger children at the group level (working with parents on parenting skills training and anxiety management). If there is to become a true paradigm shift towards preventative interventions, researchers and clinicians alike will need to promote programs across all levels.

In their review, Giesen and colleagues (2007) highlighted five key factors for an effective prevention program. Firstly, as has been frequently noted throughout this chapter, they must rely on empirically based risk and protective factors. Secondly, they must incorporate multiple strategies and approaches to address relevant risk and protective factors. Next, programs should be developmentally appropriate to the targeted audience and be implemented at an age where there is optimum opportunity for a beneficial outcome to be achieved. Fourth, sufficient training must be provided to all staff delivering the program with fidelity

of the program protected. Also, effective programs should incorporate a variety of methods for delivering material, with a focus on being interactive and skills-based. Lastly, programs must be delivered in a culturally sensitive manner.

Anxiety prevention

Recent meta-analyses evaluating anxiety prevention programs have demonstrated that preventative interventions show small to moderate effects (Fisak Jr, Richard, & Mann, 2011; Zalta, 2011). Interestingly, Fisak Jr and colleagues (2011) found no significant differences between the effectiveness of universal prevention programs in comparison with targeted prevention programs. Predominantly, anxiety prevention programs appear to be cognitive behavioral or behavioral in nature, which is most likely as a result of the adaptation of effective treatment programs and strategies for prevention purposes.

The core feature of social anxiety is the fear of negative evaluation or embarrassing oneself in public situations and commonly results in intense distress in or avoidance of these situations. Understandably, treatment-seeking is not precluded from this avoidance, embarrassment and distress. Considering this, individuals at risk of SAD are a perfect candidate for universal and selected prevention programs. As noted in Zalta's (2011) meta-analysis, at the time of publication no prevention programs specifically targeting SAD could be found. Bearing this in mind, it is suggested that prevention programs to reduce risk and incidence of social anxiety are ideally based on a framework that addresses the key modifiable risk and protective mechanisms for SAD. As highlighted above, these include: behavioral inhibition, social skills difficulties, fear of negative evaluation, and relational aspects including parent and peer influences. Table 11.1 highlights the areas of need to specifically address these issues.

Challenges in implementing prevention programs

Although prevention programs solve many of the challenges involved in treating anxiety disorders, they do come with their own set of difficulties. Firstly, whilst schools offer an enterprising opportunity for reaching larger populations than in the community, there can be difficulties in receiving permission to enter these settings as well as being able to ensure treatment fidelity. Additionally, often the insidious nature of anxiety disorders and their social burden means that anxiety prevention may not be as attractive or imperative to policy-makers as prevention programs related to delinquency, substance use and anti-social behavior. This can cause difficulties for individuals attempting to secure funds for the development or implementation of anxiety prevention programs. Although often easier in younger populations, it can also be difficult to access and engage parents in prevention programs especially if these are in a school setting. This can limit not only a program's ability to address risk factors for anxiety related to parental influence, but also the reinforcement of skills at home. Finally, in

Risk/Protective Factor Treatment Target Strategy		
Behavioral inhibition	Treatment Target	Strategy
benavioral innibition	Reducing physiological reactivity in social situations.	Building awareness of physiological symptoms of anxiety. Relaxation skills training. Gradual desensitization.
Low socio-emotional competence	Increasing self and social awareness. Improving relationship skills.	Increasing awareness and recognition of the emotions of oneself and others. Communication skills training.
Fear of negative evaluation	Addressing faulty cognitions related to scrutiny by others. Reducing avoidance/ escape behaviors. Anxiety management.	Using selective attention to focus on positive information. Identifying and challenging cognitive distortions. Building awareness of physiological symptoms of anxiety. Relaxation skills training. Gradual desensitization.
Parent influences	Building positive, supportive parent-child relationships.	Providing parent education regarding modelling. Parenting skills courses.
Peer influences	Promoting positive friendships and building social and emotional skills.	Building understanding of constructive friendships.

evaluation of prevention programs, in particular those targeted at the universal level, there is some conflict over the methods of assessment used. This conflict includes: appropriate times to measure results, method of assessment (for example reduction of anxiety symptoms or of risk/promotion of protective factors) and utilization of assessments sensitive enough to detect differences in non-clinical samples to show effectiveness.

Summary of anxiety prevention and early intervention methodology

In summary, prevention programs provide an interesting development in the area of intervention and anxiety disorders. With the knowledge that social anxiety even at a symptomatic level has degrees of impairment far greater than the

general population (Fehm et al., 2008), preventative efforts offer an opportunity to intervene prior to the establishment of maladaptive patterns of behavior. Development of a prevention program must consider not only which strategies to utilize to modify relevant risk and protective factors, but also which level and target of intervention is most appropriate to address these. Building on Rapee and Spence's (2004) model of social phobia, prevention strategies for social anxiety are recommended to ideally incorporate elements of emotional self-regulation, relaxation, gradual exposure, cognitive disputation, attention training, social skills training, as well as a parent education and training component.

PREVENTION PROGRAMS

Mental health concerns represent a significant personal and public burden throughout the lifespan. Prevention and early interventions provide an opportunity to reduce this burden along with the incidence of mental health difficulties. In a recent meta-analysis, Fisak Jr and colleagues (2011) evaluated child and adolescent anxiety prevention programs. Nearly all programs included demonstrated some improvement in symptomology. Of all programs included, use of the FRIENDS protocol was found to offer moderate treatment effectiveness, indicating that the FRIENDS programs demonstrated significantly greater reductions in anxiety than other interventions. As noted earlier, no prevention programs specifically focusing on SAD were identified prior to publication. Subsequently, this section will review three anxiety prevention programs, the Preschool Intervention Project (Rapee, 2002), the Coping and Promoting Strength Program (Ginsburg, 2009) and the FRIENDS programs that may be used in the prevention of social anxiety. These programs have been selected due to their evidence-based frameworks, as all have at least one RCT trial examining effectiveness of the programs. A brief description of these programs will be provided with an emphasis on the FRIENDS protocols, due to their welldemonstrated effectiveness in anxiety prevention.

Preschool Intervention Project

The Preschool Intervention Project (PIP; Rapee, 2002; Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2005; Rapee, Kennedy, Ingram, Edwards, & Sweeney, 2010) is a brief targeted prevention program developed through Macquarie University in Sydney, Australia. Developed by Ronald Rapee, this parent-education program aims to prevent the development of anxious symptomology in behaviorally inhibited children aged three to five years. Delivered over six 90-minute sessions, the program provides parents with psychoeducation regarding anxiety and risk factors for anxiety, and parent-management techniques as well as exposure training and cognitive restructuring for both parents to use themselves and with their children. To date, evidence of the effectiveness of PIP is limited; however, the data available appears promising for social

anxiety prevention. Although implementation of the program did not reduce levels of behavioral inhibition in children, there were significant decreases in anxious symptomology with the initial 90% of anxiety diagnosis reducing to 50% (Rapee et al., 2005). A more recent replication of this study demonstrated that, whilst there were no significant effects in either anxious symptomology or temperament from baseline to the two-year follow-up, there were significant reductions in anxious symptomology at the three-year follow-up (Rapee et al., 2010). Despite this, intervention effects did not demonstrate significance when compared with a monitoring only group. Further research should be conducted with the programs to evaluate the modification of other risk and protective factors as a result of the program.

The Coping and Promoting Strength Program

The Coping and Promoting Strength program (CAPS; Ginsburg, 2009) is a brief family cognitive-behavioral anxiety prevention program. Developing from the Child Anxiety Prevention study, CAPS is a six to eight session protocol targeted at reducing risk factors in children of anxious parents. The intervention aims to address both child and parent factors to prevent the development of future anxious symptomology. Child components targeted by the program include anxious symptomology, social avoidance, maladaptive cognitions as well as coping and problem-solving skills. The parental component aims to reduce the modeling of anxious symptomology to children, address anxious parent-rearing styles, and decrease criticism and family conflict. Ginsburg's (2009) randomized study of the program in 40 children aged seven to 12 years has provided some initial support for the program. At baseline, there were no individuals from either the intervention or waitlist groups meeting diagnosis for an anxiety disorder. Despite the intervention group remaining diagnosis-free at post-intervention and follow-up, three participants in the waitlist group developed criteria for an anxiety disorder at post-intervention. At the 12-month follow-up, this number increased into six individuals with diagnosable anxiety in the waitlist group. Ginsburg also found significant group effects were found at the six- and 12-month follow-up for severity of anxiety disorders as well as for parent-reported anxious symptomology at the 12-month follow-up. Although these preliminary results appear to be promising, further studies must be conducted to replicate findings.

The FRIENDS programs

The FRIENDS programs (Barrett, Lowry-Webster, & Turner, 2000a, 2000b) were developed as a brief CBT program for children and adolescents with anxiety. Intervention programs based on the FRIENDS protocol have been cited in over 50 published articles and FRIENDS is the only childhood anxiety prevention program endorsed by the World Health Organisation (World Health Organisation, 2004). A recent randomized clinical trial of the FRIENDS

programs in The Netherlands has demonstrated that group delivery is equally as effective in treating anxiety disorders as individual delivery (Liber et al., 2008). Subsequently, use of the FRIENDS programs in group settings offers an opportunity for wider-reaching as well as both cost- and time-efficient delivery of anxiety prevention.

The FRIENDS protocol is adapted into four developmentally sensitive programs, the Fun FRIENDS program (Barrett, 2012a; Barrett, 2012d) for fourto seven-year-olds, FRIENDS for Life (Barrett, 2012b; Barrett, 2012c) for eight- to 11-year-olds, My Youth FRIENDS (Barrett, 2012e; Barrett, 2012f) for 12–15-year-olds and the most recent Resilience for Life (Barrett, 2012g; Barrett, 2012h) for 16 years and older. In each program, with the exception of Resilience for Life, the word 'FRIENDS' is used as an acronym for the skills in the program. Whilst each of the programs overlap in content, they differ in the method of delivering skills with each program using developmentally appropriate activities. For example, the Fun FRIENDS program incorporates storybooks, puppets, and drawing tasks, whereas the Resilience for Life program employs role-plays, written activities and experiential tasks. In Table 11.2 an overview of the skills taught in each stage of the program is included. Approximately one session is spent on each letter of the program.

To support children's uptake of the FRIENDS skills, two caregiver information sessions are held at the beginning and middle of the course. In these sessions, parents learn about the skills and techniques to enhance resilience at home, the importance of family and peer support, the promotion of the practice of problem solving rather than avoidance of anxiety-provoking, a healthy family step plan and effective parenting strategies.

There have been significant revisions in the most recent editions of the FRIENDS programs. With rising evidence for the importance of attention and awareness, new editions include more content encouraging positive attention and mindfulness practice. Considering research, community involvement, revisions include exercises on giving back to the community and altruism. Furthermore, there has been an increased focus on connecting with extended family and the community as well as encouraging the recognition of both distant and close connections. Empathy training has also been expanded to include all living beings and the environment. Although the programs were originally more focused on internalizing symptoms, newer editions have also included more examples related to externalizing symptoms. Finally, home activities have been expanded to encourage better sleep, healthy eating and physical activity.

A unique aspect of the FRIENDS programs is their ability to be used in not only a clinical setting but also in classrooms and other health care settings. Following completion of a training workshop with a licensed Pathways trainer, the programs can be delivered by psychologists, health care workers, and teaching/child care staff. All four programs can be delivered in a prevention, early intervention and treatment setting. The programs are structured in a tensession format with two additional maintenance sessions held at one and two

Program Stage	Aims	Activities
F = Feelings	Building feelings recognition. Understanding and responding to the feelings of others.	Feelings recognition. Feelings charades.
R = Remember to relax	Increasing awareness of somatic symptoms. Relaxation skills training.	Body clue awareness. Progressive muscle relaxation. Breathing retraining. Relaxation imagery.
I = I can try my best	Increasing positive attention. Understanding the thoughts- feelings-behavior link. Learning about unhelpful and helpful thoughts and how to challenge them.	Attention training. Psychoeducation of the cognitive model. Cognitive disputation.
E = Explore solutions and step plans	Overcoming challenges by taking small steps. Problem-solving skills. Identifying support networks and role models. Conflict resolution skills. Assertiveness skills.	Coping step plans. Five-step problem-solving plan. Friendship tree. CALM conflict resolution.
N = Now reward yourself	Increasing the use of self-reward for partial successes.	Choosing interpersonal activities to be used as rewards.
D = Do it every day	The importance of practicing learnt skills.	Reflecting on past successes.
S = Smile and stay calm	Relapse prevention skills. Increasing community involvement.	Identifying future challenges Creating setback plans. Giving back to the community

month intervals following program completion. In this format, sessions are completed over a 60–90 minute period and it is recommended that they are conducted on a weekly basis. Ideally, for selective or indicated levels of prevention, groups of approximately six to ten children or adolescents is recommended whereas universal interventions in a classroom setting would be understandably larger.

FRIENDS programs in the early intervention and prevention of anxiety

The FRIENDS programs have a robust evidence base to support use with internalizing disorders. The protocols are the only program that is supported by the World Health Organization for the prevention and treatment of anxiety and depression in children and youth (World Health Organization, 2004). Furthermore, FRIENDS has been cited in the American National Research Council (2009), The Cochrane Collaboration Library (2007), and Ireland's National Council for Special Education (Cooper & Jacob, 2011), amongst many others. The following section reviews use of the FRIENDS programs as a prevention and early intervention program for anxious symptomology.

FRIENDS program as a universal prevention

Although the FRIENDS protocols were initially developed and validated as a group-based treatment for anxiety, they have since been extensively evaluated as a universal prevention. Two large-scale studies conducted by Barrett and colleagues (Barrett, Lock & Farrell, 2005; Lock & Barrett, 2003) involved Australian school students aged nine to 16 years. Following implementation of the FRIENDS program, intervention groups reported greater reductions in anxiety and depression at a 12-month follow-up. A significant decrease in behavioral avoidance was also seen when compared with a monitoring group (Lock & Barrett). At two- and three-year follow-ups, reduced risk of anxiety and/or depression was maintained in the intervention group (Barrett, Farrell, Ollendick & Dadds, 2006). Interestingly, students in younger grades reported greater reductions in anxiety and depressive symptoms in these studies, as well as those with moderate and high risk for anxiety, both of which indicate the importance of early intervention in preventing future symptomology. These results may be due to younger children being more amenable to change with cognitive and behavioral patterns less firmly entrenched at younger ages. Alternatively, there are often higher levels of parental engagement at younger ages as parents of young children may be more focused on social and emotional learning than parents of older children.

In the first universal effectiveness study of the Fun FRIENDS program, Anticich and colleagues (2013) compared the program with an active comparison, the You Can Do It CBT-based social and emotional skills program, and waitlist control in 14 preschools in Australia. Schools were randomly allocated to each group with pre-, post- and follow-up information being collected from both parents and teachers. The Fun FRIENDS programs demonstrated significantly greater improvements in behavioral inhibition, behavioral difficulties and socioemotional competence when compared with the active comparison group. These gains were consistent across high and low anxiety groups and gains were maintained at 12-month follow-up. Whilst most anxiety prevention programs have focused on children aged nine and up, this study provided significant support for interventions in preschool-aged children.

Although the FRIENDS programs have been predominantly studied in Australia, effectiveness studies have also been conducted around the world. In the UK, Stallard and colleagues (Stallard, Simpson, Anderson, Osborn & Bush, 2005) implemented the program using school nurses in a sample of 213 children aged nine and 10 years. Following completion of the program,

participants demonstrated significant reductions in anxious symptomology, an increase in self-esteem, and reported being highly satisfied with the program. These results extended to those at risk in the sample with significant improvements in over half of the children with more severe emotional problems. A following study by Stallard and colleagues (2007; 2008) demonstrated gains maintained at three-month and one year follow-up. Similar results to these early studies have been replicated worldwide. Literature from South Africa has also shown significant reductions in anxiety following completion of FRIENDS programs for up to six months (Mostert & Loxton, 2008), whilst Ahlen and colleagues (2012) also demonstrated reductions in depressive symptomology and increases in overall mental health in Swedish students.

FRIENDS programs in children at risk for anxiety

In addition to the universal research conducted, the FRIENDS programs have also been evaluated with individuals at risk for anxiety. Targeting secondary schools in a socially disadvantaged area of Ireland, Rodgers and Dunsmuir (2013) evaluated FRIENDS with 62 students aged 12 and 13. Results showed that students in the intervention group reported significant reductions in anxiety symptoms post intervention and at a four-month follow-up in comparison to wait-list controls, as did their parents. Importantly for policy-makers, results demonstrated negative correlations between anxious symptomology and school adjustment. When analyzing different subtypes of anxiety, Rodgers and Dunsmuir (2013) found that the FRIENDS program was also effective in reducing "separation anxiety" scores and maintaining this over a four-month period.

Additionally, Liddle and Macmillan (2010) from the UK utilized the FRIENDS programs in students aged nine to 14 years. Participants were individuals identified by classroom teachers as exhibiting anxious symptomology, low mood and self-esteem. Results showed significant improvements in anxiety, mood, self-esteem and social skills at post-treatment and four-month follow up. Similarly, improved self-esteem and fewer internalizing symptoms were also found in Siu's (2007) study of FRIENDS in primary school children in Hong Kong.

FUTURE RESEARCH DIRECTIONS AND SUMMARY

Growing concern is mounting over the rates of anxious symptoms in young people. In particular, Social Anxiety Disorder is a common diagnosis linked with an unremitting course and the development of subsequent disorders when untreated. Preventative interventions provide an opportunity to address individual risk and protective factors implicated in the development of social anxiety prior to the development or establishment of dysfunctional cognitions and behaviors. Whilst prevention programs provide a method of reaching greater numbers of individuals at a greatly reduced cost to treatment programs, there are unique challenges in trying to implement these strategies. The FRIENDS protocols

(Barrett, 2012a; Barrett, 2012b; Barrett, 2012c; Barrett, 2012d; Barrett, 2012e; Barrett, 2012f; Barrett, 2012g; Barrett, 2012h) have been identified as one of the most robustly supported anxiety prevention programs and can be used at either the early intervention or universal prevention levels.

This article has highlighted a range or risk and protective factors related to the development of social anxiety. However, understanding of the interaction of these risk and protective factors is still in its infancy. In particular, more research needs to be conducted exploring specifically how the modification of protective factors is related to etiological risk. Additionally, this article found a lack of prevention programs specific to social anxiety. With consideration of the high prevalence rates and social burden of SAD, this needs to be remedied through research into the development of socially anxious protocol as begun here as well as through the adaptation of other anxiety prevention programs to socially anxious symptomology. Whilst there is a significant amount of literature published over recent decades reporting on anxiety prevention programs, further studies need to explore whether these programs are equally as effective in a specifically socially anxious population. Furthermore, evaluation of these prevention programs should incorporate measurements outside of simply anxious symptomology to include influences on risk and protective mechanisms.

Please note the FRIENDS programs can only be used by trained professionals. If you are interested in facilitating any of the FRIENDS programs please contact Pathways Health and Research Centre at training@pathwayshrc.com.au within Australia and programs@pathwayshrc.com.au outside of Australia. For more information see our website http://www.pathwayshrc.com.au. Any queries regarding FRIENDS research should be forwarded to research@pathwayshrc.com.au

REFERENCES

- Ahlen, J., Breitholtz, E., Barrett, P. M., & Gallegos, J. (2012). School-based prevention of anxiety and depression: A pilot study in Sweden. Advances in School Mental Health Promotion, 5, 246–257. doi:10.1080/1754730X.2012.730352.
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. *The American Psychologist*, 44, 709–716, Retrieved from http://www.ovid.com.
- Angelico, A. P., Crippa, J. A. S., & Loureiro, S. R. (2010). Social anxiety disorder and social skills: A critical review of the literature. *The International Journal of Behavioral Consultation and Therapy*, 6, 95–110, Retrieved from http://www.eric.ed.gov/.
- Anticich, S. J., Barrett, P. M., Silverman, W., Lacherez, P., & Gillies, R. (2013). The prevention of childhood anxiety and promotion of resilience among preschool-aged children: A universal school based trial. Advances in School Mental Health Promotion, 6, 93-21. doi:10.1080/1754 730X.2013.784616.
- Barrett, P. M. (2012a). FUN FRIENDS: A facilitator's guide to building resilience in 4 to 7 year old children through play (3rd ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012b). FRIENDS for Life: Activity book for children (6th ed). Brisbane, Australia: Pathways Health and Research Centre.

- Barrett, P. M. (2012c). FRIENDS for Life: Group leaders' manual for children (6th ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012d). My FUN FRIENDS Book: A book for me to draw in and talk about with my friends and family (3rd ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012e). My FRIENDS Youth Resilience Program: Group leaders' manual for youth (6th ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012f). *My FRIENDS Youth Resilience Program: Activity book for Youth* (6th ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012g). Strong Not Tough adult program: Resilience throughout life (2nd ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P. M. (2012h). Strong Not Tough adult program: Resilience throughout life: Guidelines for facilitators (2nd ed). Brisbane, Australia: Pathways Health and Research Centre.
- Barrett, P., Farrell, L. J., Ollendick, T. H., & Dadds, M. (2006). Long-term outcomes of an Australian universal prevention trial of anxiety and depression symptoms in children and youth: An evaluation of the FRIENDS program. *Journal of Clinical Child and Adolescent Psychology*, 35, 403–411, Retrieved from http://www.ovid.com.
- Barrett, P., Lock, S., & Farrell, L. J. (2005). Developmental differences in universal preventive intervention for child anxiety. Clinical Child Psychology and Psychiatry, 10, 539–555. doi:10.1177/1359104505056317.
- Baumeister, R. F., & Leary, M. R. (1994). The need to belong. Desire for interpersonal attachments as a fundamental motivation. *Psychological Bulletin*, 117, 497–529, Retrieved from http://www.ovid.com.
- Blanco, C., Xu, Y., Schneier, F. R., Okuda, M., Liu, S., & Heimberg, R. G. (2011). Predictors of persistence of social anxiety disorder: A national study. *Journal of Psychiatric Research*, 45, 1557–1563. doi:10.1016/j.jpsychires.2011.08.004.
- Bowlby, J. (1973). Attachment and loss, Vol. 2: Separation: Anxiety and Anger. New York, NY: Basic Books.
- Brown, E. J., Juster, H. R., Heimberg, R. G., & Winning, C. D. (1998). Stressful life events and personality styles: Relation to impairment and treatment outcome in patients with social phobia. *Journal of Anxiety Disorders*, 12, 233–251. doi: 10.1016/S0887-6185(98)00012-7.
- CASEL. (2011). What is social and emotional learning (SEL)? Retrieved from http://casel.org/why-it-matters/what-is-sel/.
- Coie, J. D., Watt, N. F., West, S. G., Hawkins, J. D., Asarnow, J. R., Markman, H. J., & Long, B. (1993). The science of prevention: A conceptual framework and some directions for a national research program. *American Psychologist*, 48, 1013–1022. doi:10.1037/0003-066X.48.10.1013.
- Connell, A. M., & Goodman, S. H. (2002). The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: A meta-analysis. *Psychological Bulletin*, *128*, 746–773. doi:10.1037//0033-2909.128.5.746.
- Cougle, J. R., Keough, M. E., Riccardi, C. J., & Sachs-Ericsson, N. (2009). Anxiety disorders and suicidality in the National Comorbidity Survey-Replication. *Journal of Psychiatric Research*, 43, 825–829. doi:10.1016/j.jpsychires.2008.12.004.
- Dadds, M. R., & Roth, J. H. (2008). Prevention of anxiety disorders: Results of a universal trial with young children. *Journal of Children and Family Studies*, 17, 320–335. doi:10.1007/s10826-007-9144-3.
- Drake, K. L., & Ginsburg, G. S. (2012). Family factors in the development, treatment, and prevention of childhood anxiety disorders. *Clinical Child and Family Psychology Review*, 15, 144–162. doi:10.1007/s10567-011-0109-0.

- Erikson, E. H. (1950). Childhood and society. New York, NY: Norton.
- Fehm, L., Beesdo, K., Jacobi, F., & Fiedler, A. (2008). Social anxiety disorder above and below the diagnostic threshold: Prevalence, comorbidity and impairment in the general population. *Social Psychiatry and Psychiatric Epidemiology*, *43*, 257–265. doi:10.1007/s00127-007-0299-4.
- Fisak, B. J., Jr., Richard, D., & Mann, A. (2011). The prevention of child and adolescent anxiety: A meta-analytic review. *Prevention Science*, 12, 255–268. doi:10.1007/s11121-011-0210-0.
- Giesen, F., Searle, A., & Sawyer, M. (2007). Identifying and implementing prevention programmes for childhood mental health problems. *Journal of Paediatrics and Child Health*, 43, 785–789. doi:10.1111/j.1440-1754.2007.01196.
- Ginsburg, G. S. (2009). The child anxiety prevention study: Intervention model and primary outcomes. *Journal of Consulting and Clinical Psychology*, 77, 580–587. doi:10.1037/a0014486.
- Greenberg, M. T. (2000). Promoting resilience in children and youth: Preventative interventions and their interface with neuroscience. *Annals New York Academy of Sciences*, 1094, 139–150. doi:10.1196/annals.1376.013.
- Gulay, H. (2011). Assessment of the prosocial behaviors of young children with regard to social development, social skills, parental acceptance-rejection and peer relationships. *Journal of Instructional Psychology*, 38, 164–172, Retrieved from http://www.proquest.com.
- Kagan, J., Reznik, J. S., & Snidman, N. (1987). The physiology and psychology of behavioral inhibition in children. *Child Development*, 58, 1459–1473, Retrieved from http://www.jstor.org/.
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry, 62, 593-502. doi:10.1001/archpsyc.62.6.593.
- Knappe, S., Beesdo-Baum, K., & Wittchen, H. (2010). Familial risk factors in social anxiety disorder: Calling for a family-oriented approach for targeted prevention and early intervention. European Child and Adolescent Psychiatry, 19, 857–871. doi: 10.1007/s00787-010-0138-0.
- Laible, D. J., Carlo, G., & Raffaelli, M. (2000). The differential relations of parent and peer attachment to adolescent adjustment. *Journal of Youth and Adolescence*, 29, 45–59. doi:10.1023/A: 1005169004882.
- Liber, J. M., van Widenfelt, B. M., Utens, E. M. W. J., Ferdinand, R. F., van der Leeden, A. J. M., van Gastel, W., & Treffers, P. D. A. (2008). No differences between group versus individual treatment of childhood anxiety disorders in a randomized clinical trial. *The Journal of Child Psychology and Psychiatry*, 49, 886–893. doi:10.1111/j.1469-7610.2008.01877.x.
- Liddle, I., & Macmillan, S. (2010). Evaluating the FRIENDS programme in a Scottish setting. *Educational Psychology in Practice*, 26, 53–67. doi:10.1080/02667360903522785.
- Lock, S., & Barrett, P. (2003). A longitudinal study of developmental differences in universal preventive intervention for child anxiety. *Behaviour Change*, 20, 183–199. doi:10.1375/bech.20.4.183.29383.
- Low, N. C. P., Dugas, E., O'Loughlin, E., Rodriguez, D., Conteras, G., Chaiton, M., & O'Loughlin, J. (2012). Common stressful life events and difficulties are associated with mental health symptoms and substance use in young adolescents. *BioMed Central Psychiatry*, 12, 116–127. doi:10.1186/1471-244X-12-116.
- McCabe, P. C., & Altamura, M. (2011). Empirically valid strategies to improve social and emotional competence of preschool children. *Psychology in the Schools*, 48, 513–540. doi:10.1002/pits.20570.
- Marques, L., & Robinaugh, D. J. (2011). Cross-cultural variations in the prevalence and presentation of anxiety disorders. Expert Review of Neurotherapeutics, 11, 313–322. doi:10.1586/ERN.10.122.

- Marysko, M., Finke, P., Wiebel, A., Resch, F., & Moehler, E. (2010). Can mothers predict child-hood behavioural inhibition in early infancy? *Child and Adolescent Mental Health*, 15, 91–96. doi:10.1111/j.1475-3588.2009.00539.x.
- Mostert, J., & Loxton, H. (2008). Exploring the Effectiveness of the FRIENDS Program in Reducing Anxiety Symptoms Among South African Children. *Behavior Change*, 25, 85–96. doi:10.1375/bech.25.2.85.
- National Council for Special Education (2011). Evidence of best practice models and outcomes of children with emotional disturbance/behavioural difficulties: An international review (NCSE Research Report No: 7). Country Meath, Ireland: Author. Retrieved from http://www.ncse.ie/uploads/1/7 ncse ebd.pdf.
- O'Toole, M. S., Hougaard, E., & Mennin, D. S. (2013). Social anxiety and emotion knowledge: A meta-analysis. *Journal of Anxiety Disorders*, 27, 98–108. doi: 10.1016/j.janxdis.2012.09.005.
- Rapee, R. M. (2002). The development and modificiation of temperamental risk for anxiety disorders: Prevention of a lifetime anxiety? *Biological Psychiatry*, 52, 946–957. doi:10.1016/S0006-3223(02)01572-X.
- Rapee, R. M., Kennedy, S., Ingram, M., Edwards, S., & Sweeney, L. (2005). Prevention and early intervention of anxiety disorders in inhibited preschool children. *Journal of Consulting and Clinical Psychology*, 73, 488–497, Retrieved from http://www.ovid.com.
- Rapee, R. M., Kennedy, S., Ingram, M., Edwards, S., & Sweeney, L. (2010). Altering the trajectory of anxiety in at-risk young children. *American Journal of Psychiatry*, 167, 1518–1525. doi:10.1176/appi.ajp.2010.09111619.
- Rapee, R. M., & Spence, S. H. (2004). The etiology of social phobia: Empirical evidence and an initial model. *Clinical Psychology Review*, 24, 737–767. doi: 10.1016/j.cpr.2004.06.004.
- Rodgers, A., & Dunsmuir, S. (2013). A controlled evaluation of the FRIENDS for Life emotional resiliency programme on overall anxiety levels, anxiety subtype levels and school adjustment. *Child and Adolescent Mental Health*. doi:10.1111/camh.12030.
- Schneier, F. R., Foose, T. E., Hasin, D. S., Heimberg, R. G., Liu, S. -M., Grant, B. F., & Blanco, C. (2010). Social anxiety disorder and alcohol use disorder co-morbidity in the National Epidemiologic Survey on Alcohol and Related Conditions. *Psychological Medicine*, 40, 997-988. doi:10.1017/S0033291709991231.
- Shamir-Essakow, G., Ungerer, J. A., & Rapee, R. M. (2005). Attachment, behavioral inhibition, and anxiety in preschool children. *Journal of Abnormal Child Psychology*, *3*, 131–145. doi:10. 1007/s-10802-005-1822-2.
- Siu, A. F. Y. (2007). Using FRIENDS to combat internalizing problems among primary school children in Hong Kong. *Journal of Cognitive and Behavioral Psychotherapies*, 7, 11–26, Retrieved from http://www.proquest.com.
- Stallard, P., Simpson, N., Anderson, S., & Goddard, M. (2008). The FRIENDS emotional health prevention programme: 12 month follow-up of a universal UK school based trial. *European Child and Adolescent Psychiatry*, *17*, 183–189. doi:10.1007/s00787-007-0665-5.
- Stallard, P., Simpson, N., Anderson, S., Carter, T., Osborn, C., & Bush, S. (2005). An evaluation of the FRIENDS programme: a cognitive behaviour therapy intervention to promote emotional resilience. Archives of Disease in Childhood, 90, 1016–1019. doi:10.1136/ads.2004.068163.
- Stallard, P., Simpson, N., Anderson, S., Hibbert, S., & Osborn, C. (2007). The FRIENDS Emotional Health Programme: Initial Findings from a School-Based Porject. *Child and Adolescent Mental Health*, *12*, 32–37. doi:10.1111/j.1475-3588.2006.00421.x.
- Takahashi, Y., Yamagata, S., Kijima, N., Shigemasu, K., Ono, Y., & Ando, J. (2007). Continuity and change in behavioral inhibition and activation systems: A longitudinal behavioral genetic study. *Personality and Individual Differences*, 43, 1616–1625. doi:10.1016/j.paid.2007.04.030.

- van Zalk, N., van Zalk, M., Kerr, M., & Stattin, H. (2011). Social anxiety as a basis for friendship selection and socialization in adolescents' social networks. *Journal of Personality*, 79, 499–526. doi:10.1111/j.1467-6494.2011.00682.x.
- Wagner, R., Silove, D., Marnane, C., & Rouen, D. (2006). Delays in referral of patients with social phobia, panic disorder and generalized anxiety disorder attending a specialist anxiety clinic. *Journal of Anxiety Disorders*, 20, 363–371. doi:10.1016/j.janxdis.2005.02.003.
- Wiltink, J., Beutel, M. E., Till, Y., Ojeda, F. M., Wild, P. S., Munzel, T., Blankenberg, S., & Michal, M. (2011). Prevalence of distress, comorbid conditions and well being in the general population. *Journal of Affective Disorders*, 130, 429–437. doi:10.1016/j.jad.2010.10.041.
- World Health Organization (2004). *Prevention of mental disorders: Effective interventions and policy options*. Geneva, Switzerland: World Health Organization.
- Zalta, A. K. (2011). A meta-analysis of anxiety symptom prevention with cognitive-behavioral interventions. *Journal of Anxiety Disorders*, 25, 749–760. doi: 10.1016/j.janxdis.2011.02.007.