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Social Information Processing in Adolescence: An integrated perspective of the pathways to social avoidance

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O Processamento de Informação Social na Adolescência: Uma visão integradora das etapas subjacentes ao evitamento social

Resumo

O modelo de Processamento de Informação Social (PIS) postula que, quando confrontados com um acontecimento ou pista social, os indivíduos processam a informação através de uma sequência de etapas, que os leva a comportarem-se de determinada forma. Este modelo tem sido proposto como um paradigma relevante para explicar diferentes tipos de comportamento maladaptativo, incluindo o evitamento de situações sociais. Tendo em conta a escassez de investigação empírica face a este tipo de comportamento, numa fase tão crucial do desenvolvimento como é a adolescência, o presente estudo baseou-se no modelo de PIS para avaliar os padrões de processamento de informação nas etapas de atribuição de intenção, emoção, avaliação e decisão de resposta, que levam os adolescentes a comportarem-se de forma passiva e evitante.

Recorrendo a uma amostra comunitária de 580 adolescentes que frequentam o ensino secundário, foi testado um modelo estrutural no qual as etapas do PIS foram incluídas como preditoras da frequência de evitamento de situações sociais (interação e desempenho), bem como da seleção de uma resposta passiva em situações sociais. O modelo final revelou um ajustamento adequado aos dados. Como esperado, a atribuição de intenção hostil e a vergonha foram preditoras do evitamento (de interação e desempenho) e da seleção de respostas passivas. A tristeza surgiu também como preditora significativa do evitamento de situações de desempenho. Os resultados para a etapa de avaliação de respostas passivas foram incongruentes com as nossas expectativas, levando-nos a supor que as situações de provocação relacional e aberta envolvem diferentes padrões de processamento cognitivo e emocional. Foi encontrada alguma evidência para a distinção qualitativa do PIS em situações sociais de interação e de desempenho. Em síntese, os resultados sugerem que o PIS representa um modelo teórico válido e relevante para explicar os comportamentos passivos e de evitamento, destacando o papel integrado dos processos emocionais e cognitivos.

Palavras-chave: processamento de informação social, adolescentes, evitamento, passividade, emoção

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Abstract

The Social Information Processing (SIP) model postulates that when confronted with a social event or cue, individuals process information through several processing steps, which lead them to behave in a certain manner. This model has been proposed to be a valuable framework to explain different types of maladaptive social behavior, including avoidance of social situations. Given the lack of empirical research regarding these behaviors in a critical period of development such as adolescence, the present study applied a SIP framework to evaluate the patterns of information processing, including attribution of intent, emotion, response evaluation and response decision, to understanding passive and avoidant social behavior.

Using a sample of 580 adolescents attending high-school, we tested a structural model in which the several steps of SIP were introduced as predictors of avoidance of social situations (interaction and performance) and enactment of passive responses when in social situations. The final model revealed an acceptable fit to the data. As expected, hostile attribution of intent and shame were predictors of avoidance of social situations (both interaction and performance) and of the selection of passive responses. Sadness also emerged as a significant predictor of avoidance of interaction situations. The findings for evaluation of passive responses were somewhat inconsistent with our predictions, suggesting that relational and overt provocation scenarios may involve distinct cognitive and emotional patterns. Some evidence was found for the distinctive qualitative nature of SIP underlying interaction and performance situations. In summary, our findings suggest that SIP is a valid framework for explaining avoidant and passive behaviors, corroborating the integrated role of emotional and cognitive processes.

Keywords: social information processing, adolescents, avoidance, passiveness, emotion

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Introdução

A escolha do tema deste estudo surgiu no contexto de desenvolvimento de um conjunto mais amplo de trabalhos relacionados com o tema do Processamento de Informação Social (PIS), levados a cabo pelos orientadores da presente dissertação. O modelo do PIS, originalmente proposto por Crick e Dodge (1994), tem sido utilizado e adaptado por diversos autores interessados no estudo de padrões de comportamento maladaptativo, responsáveis pelo desajustamento social de crianças e adolescentes. Apesar de estes estudos terem contribuído largamente para a validação do modelo de Processamento de Informação Social como um paradigma de valor teórico e empírico sustentado, a maioria tem-se focado nos comportamentos característicos das perturbações externalizantes, sobretudo no comportamento agressivo.

Tendo em conta que a adolescência apresenta características desenvolvimentais específicas, em que o estabelecimento de interações com os pares assume uma relevância crescente e durante a qual os indivíduos se envolvem em atividades sociais de maior complexidade e exigência, esta torna-se uma fase propícia ao surgimento de preocupações relacionadas com a avaliação e com a forma como o *eu* é percebido pelos outros (Kashdan & Herbert, 2001; Westenberg, Gullone, Bokhorst, Heyne & King, 2007). Desta forma, este período reveste-se de especial vulnerabilidade ao desenvolvimento de sintomatologia ansiosa em relação às situações sociais, sendo também a fase em que os comportamentos neste tipo de situações se revelam particularmente determinantes para o ajustamento social e para o equilíbrio psicológico dos indivíduos (Salvador, 2009).

Os comportamentos de evitamento de situações sociais, derivados do receio de avaliação negativa, assumem assim uma maior relevância nesta etapa, tornando-se mais frequentes (Beidel et al., 2007; Rao et al., 2007). Ao mesmo tempo prejudicam a construção de relações sociais gratificantes, o desenvolvimento da autonomia e o crescimento pessoal e interpessoal do indivíduo, contribuindo para a manutenção de ciclos interpessoais disfuncionais que não permitem a desconfirmação das suas crenças erróneas acerca de si mesmo e das relações com os outros (Hofmann, 2007; Neal & Edelman, 2003). Neste sentido, afigura-se de extrema relevância detetar estas dificuldades numa fase precoce, de forma a impedir a generalização dos comportamentos disfuncionais e o conseqüente impacto negativo que estes poderão ter

na vida do adolescente. O impacto deste tipo de dificuldades pode ser difícil de detetar devido à sua natureza internalizante, o que leva a que muitas vezes os adolescentes que as experienciam não recebam a intervenção necessária numa fase mais adequada, isto é, quando estes padrões de funcionamento ainda não estão completamente rigidificados (Cunha, Pinto-Gouveia, Salvador & Alegre, 2004; Salvador, 2009). Desta forma, compreender os padrões de processamento de informação que operam na base dos comportamentos de evitamento é um requisito necessário e imprescindível de qualquer trabalho de intervenção no sentido da redução desses comportamentos.

Partindo da suposição da aplicabilidade do paradigma de Processamento de Informação Social para a compreensão de diversos tipos de comportamento ajustado e desajustado, o presente estudo procurou aplicar este modelo como matriz conceptual de base para a compreensão dos comportamentos de evitamento e passividade em situações sociais, numa amostra comunitária de 580 adolescentes que frequentam o ensino secundário, no sentido de avaliar simultaneamente quais os processos cognitivos e emocionais subjacentes a esses mesmos comportamentos.

O estudo é apresentado em formato de artigo científico e escrito em língua inglesa, seguindo as normas da revista *Journal of Adolescence*, para a qual se pretende futuramente submetê-lo a publicação.

Social Information Processing in Adolescence: An integrated perspective of the pathways to social avoidance

Abstract

The Social Information Processing (SIP) model has been proposed as a valuable framework to explain different types of maladaptive behavior, including social avoidance. Given the lack of empirical research regarding these behaviors in adolescence, the present study applied a SIP framework to evaluate several patterns of information processing as they may provide understanding into passive and avoidant social behavior. Using a sample of 580 adolescents attending high-school, we tested a structural model in which several SIP steps (attribution of intent, emotion, response evaluation and decision) were introduced as predictors of avoidance of social situations (interaction and performance) and enactment of passive responses. The final model revealed an acceptable fit to the data. As expected, hostile attribution and shame were predictors of avoidance of social situations and of the selection of passive responses. Sadness also emerged as a positive predictor of avoidance of interaction situations. The findings for evaluation of passive responses suggest the presence of distinct cognitive and emotional patterns underlying relational and overt provocation scenarios. Additionally, some evidence was found for the distinctive nature of SIP underlying interaction and performance situations. Generally, our findings suggest that SIP is a valid framework for explaining avoidant and passive behaviors, supporting the integrated role of emotional and cognitive processes.

Keywords: social information processing, adolescents, avoidance, passiveness, emotion

Introduction

Social information processing models (Crick & Dodge, 1994; Dodge, 1986) have emerged in the context of a growing interest in understanding the social-cognitive mechanisms underlying social behaviors, as well as the way these processes influence social adjustment. These models propose that an individual's behavior is determined by the way he/she processes information about social situations, and suggests that maladaptive behavior is a consequence of biases and distortions in multiple steps of information processing.

According to Crick and Dodge (1994), when faced with a social cue or event, individuals usually engage in a sequence of information processing steps, which are mutually influenced and occur in an interchangeable manner, leading them to behave in a certain way. First, social information is encoded, being it either internal (derived from the individual himself - e.g., physiological reactions, thoughts or emotions) or external (derived from the environment or other people's behavior). Following the codification of social cues, the individual interprets and attributes meaning to them according to his/her cognitive structures (e.g., schemas). After defining and selecting the goals intended to the situation, he/she searches in long-term memory for response options that could lead him/her to the desired outcomes. Then, one evaluates each option and decides upon one of them, according to several evaluation criteria (e.g., moral quality/personal valuation of the response; outcome expectations and self-efficacy perception). Finally, one enacts the selected response in an observable behavior. The enacted behavior will, in turn, provoke a reaction in others, which will be analyzed and retained in memory as a future behavior guideline.

More recently, authors like Lemerise and Arsenio (2000) have explicitly included emotional variables in social information processing models, highlighting the fundamental influence of emotional processes (including emotion regulation skills) in each information processing step. These authors proposed that the experience of certain emotions would determine how people process social information and, consequently, would influence the way they behave.

SIP models have been proposed to be useful in explaining different types of adjusted, such as prosocial and assertive, and maladjusted social behavior, namely aggression and social withdrawal/avoidance. The suitability of the SIP model has

received strong empirical support, but mainly in what refers to externalized problematic behavior, especially aggressive behavior (e.g., Fontaine, Burks & Dodge, 2002; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). Several studies have found that aggressive individuals show specific maladaptive patterns in most of the social information processing steps. The majority of the research points to the presence of an hostile attribution bias preceding aggressive behavior, which means that individuals who behave aggressively often interpret others' ambiguous provocations as reflecting an intent to cause them harm (Fontaine et al., 2010; Orobio de Castro et al., 2002). Furthermore, aggressive children have been found to endorse more hostile and instrumental social goals, which are potentially relationship-damaging (Crick & Dodge, 1996; Harper, Lemerise & Caverly, 2010; Lemerise, Fredstrom, Kelley, Bowersox & Waford, 2006). Regarding the response evaluation step, several studies have found that aggressive youths report more confidence (i.e., self-efficacy) in performing aggression (Erdley & Asher, 1996), are more likely to value aggression as an appropriate response (Erdley & Asher, 1998; Fontaine et al., 2002), and expect this behavior to lead to positive outcomes (Crick & Ladd, 1990). Recent studies have provided empirical support for the crucial role of response evaluation on the enactment of antisocial behavior during adolescence (Fontaine, Yang, Dodge, Pettit & Bates, 2009; Fontaine et al., 2010). In addition, only the relation of anger with aggressive behavior (Harper et al., 2010; Orobio de Castro, 2004; Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005) has been consistently studied.

In contrast to such substantial findings for the SIP associated to aggression, little attention has been paid to individuals who, despite presenting maladaptive information processing patterns, engage in avoidant, passive or withdrawn behaviors, rather than aggressive ones. There is a lack of research concerning the influence of SIP mechanisms in these type of behaviors, which are typically associated to internalizing problems (Bell, Luebbe, Swenson, & Allwood, 2009; Burgess, Wojslawowicz, Rubin, Rose-Krasnor & Booth-LaForce, 2006; Luebbe, Bell, Allwood, Swenson & Early, 2010), particularly social anxiety (Neal & Edelman, 2003).

The manifestation of social fears frequently emerges at an early age, but becomes more impairing at adolescence, along with the growing complexity and heterogeneity of social experiences, which lead to increased social evaluation concerns and to a greater

engagement on avoidant behaviors (Kashdan & Herbert, 2001; Rao et al., 2007; Westenberg, Gullone, Bokhorst, Heyne & King, 2007). Given the harmful social impact associated to these behaviors, that keep individuals trapped in dysfunctional interpersonal interactions (Alden & Taylor, 2004), it becomes relevant to understand the social-cognitive and emotional processes contributing to those behavioral patterns.

A few studies conducted with children who frequently adopt withdrawn and avoidant behaviors in social situations, have provided some evidence for the presence of specific SIP biases underlying social avoidance behavior. Specifically, these studies found that besides attributing hostile intent to others, these children also endorse more self-protective (avoidant) goals (Erdley & Asher, 1996), report low self-efficacy perceptions for engaging in aggressive and assertive behaviors (Burgess et al., 2006; Wichmann, Coplan & Daniels, 2004) and select more passive and avoidant social responses for enactment (Wichmann et al., 2004). These findings suggest that response evaluation processes, namely outcome expectations (i.e., what the individual expects to occur after performing a designated behavior) and self-efficacy perceptions (i.e., how much the individual believes that he/she can successfully perform the behavior), may play a crucial role in the endorsement of dysfunctional behaviors such as social avoidance, which are typical and a maintenance factor of social anxiety (Clark, 2001).

Taking into account the diversity of feared social situations, social anxiety is generally conceptualized as divided into two subtypes, namely performance anxiety (i.e., fear of performing before an audience and being scrutinized) and interaction anxiety (i.e., fear of interacting with others) (Bögels et al., 2010; Hook, Valentiner & Connelly, 2013). Thus, social fears are most commonly reported as varying along different categories or domains, based on whether the individual mostly fears performance or social interaction situations. Although the social anxiety subtypes share the same core cognitive concern (i.e., being negatively judged by others), there is some evidence that there are qualitative differences between them (Bögels et al., 2010; Hook & Valentiner, 2002), making it important to discriminate between subtypes. Specifically, performance fears have been associated with an increased processing of external and social threatening information, while interaction fears have been found to be related to a greater concern towards self-referent negative information (i.e., involving a negative self-image) (Hook & Valentiner, 2002).

The negative self-evaluation triggered in social interaction situations considered threatening and anxiety provoking, is thought to be associated with feelings of internal shame (Hook, Valentiner & Connelly, 2013), which is related to one's private experience of inadequacy and unattractiveness (Gilbert, 2000, 2003, 2007; Gilbert & Irons, 2009). External shame, on the other hand, derives from beliefs concerning what others think about the self, arising when one believes he/she is being negatively judged by others (Gilbert, 2003, 2007), and it has been found to be associated with performance situations (Hook et al., 2013). Thus, there is a great overlap between social anxiety and shame (which can be internal or external) since both constructs share the core concern of being seen as inferior, inadequate and/or unattractive and, consequently, being rejected by others (Fergus, Valentiner, McGrath & Jencius, 2010; Hedman, Ström, Stükel & Mörtberg, 2013; Matos, Pinto-Gouveia & Gilbert, 2013).

According to cognitive models (e.g., Beck, Emery & Greenberg, 1985; Clark & Wells, 1995), clinical symptoms of social anxiety are maintained by information processing biases. This processing is guided by maladaptive schemas and beliefs held by socially anxious individuals about their own inadequacy in social situations (Alden & Wallace, 1995; Taylor & Alden, 2005) and about the way other people evaluate them (Ingram, Scott, Holle & Chavira, 2003; Leary, Kowalski & Campbell, 1988; Rapee & Heimberg, 1997). Taking into account these cognitive biases, and given that social situations are usually uncertain and allow for different interpretations, it is predictable that individuals with high levels of social anxiety more easily misinterpret external feedback and draw more negative and threatening inferences about the meaning of ambiguous social stimuli (Clark, 2001; Clark & McManus, 2002; Heinrichs & Hofmann, 2001). Taking into consideration the assumptions derived from the above mentioned cognitive models of social anxiety and from the SIP model (Crick & Dodge, 1994), it is expected that the initial misinterpretation of social cues will presumably lead to maladaptive patterns in subsequent steps of information processing.

Several studies concerning information processing biases in social anxiety have supported the assumption that high socially anxious individuals hold a negative interpretation bias toward ambiguous social events (Amir, Foa & Coles, 1998; Amir, Beard & Bower, 2005; Beard & Amir, 2009; Huppert, Foa, Furr, Filip & Mathews, 2003; Huppert, Pasupuleti, Foa & Mathews, 2007; Kanai, Sasagawa, Chen, Shimada &

Sakano, 2010; Stopa & Clark, 2000; Voncken, Bögels & de Vries, 2003; Voncken, Bögels & Peeters, 2007). This evidence has been found among socially-anxious adolescents (Miers, Blöte, Bögels & Westenberg, 2008) and, therefore, we might expect that these individuals interpret neutral or ambiguous reactions from others as signs of negative evaluation and rejection (i.e., hostile attribution style) (Rappee & Heimberg, 1997). Furthermore, adolescents scoring high in social anxiety have also been found to overestimate negative consequences of social events (i.e., to expect more negative outcomes) (Rheingold, Herbert & Franklin, 2003), and to hold more negative appraisals and expectations about their own performance (i.e., low self-efficacy perceptions) (Alfano, Beidel & Turner, 2006; Erath, Flanagan & Bierman, 2007). As a consequence of these interpretation biases, of negative outcome expectations and of low self-efficacy perceptions for behaving successfully in social situations, socially-anxious adolescents frequently engage in avoidant behaviors in social situations (Beidel et al., 2007; Erath et al., 2007).

By adopting these behaviors (e.g., withdrawn, avoidant and submissive), they intend to prevent expected negative consequences after perceiving threat in social situations (Alden & Taylor, 2004; Gilbert, 2001; Rappee & Heimberg, 1997). According to a social rank theory, these self-defensive behaviors are adopted with the intent to go unnoticed, appease others and thus limit rejection or potential attacks to the social self (Gilbert, 2000, 2001; Gilbert & Miles, 2000; Gilbert & Irons, 2009; Muris & Meesters, 2014; Trower & Gilbert, 1989). Social avoidance, escape from social situations and other more subtle in-situation safety behaviors may, however, result in adverse social outcomes, therefore contributing to the maintenance of maladaptive beliefs about the negative consequences of social events (Clark, 2001; Heinrichs & Hofmann, 2001; Hofmann, 2007; McManus, Sacadura & Clark, 2008; Rappee & Spence, 2004; Wells et al., 1995). Moreover, these behaviors may lead the impairment associated to social anxiety to persist into adulthood (Rheingold et al., 2003), whereby it is extremely important to detect social difficulties at an early stage, in order to prevent the clinical manifestation of social anxiety and/or in order to reduce its negative consequences (Erath et al., 2007), namely social avoidance and its interpersonal impact.

As proposed by Crick and Dodge (1994), the social information processing model may be useful in explaining why individuals engage in avoidant and passive behaviors.

However, in spite of the extant research on maladaptive cognitive patterns associated with social anxiety, there is little investigation focusing on simultaneously assessing the several social-cognitive and emotional processes underlying avoidant behaviors, especially in non-referred samples of adolescents. The close association between social anxiety and avoidant behavior may sustain that the findings associated to SIP in socially anxious individuals may hold as the basis for avoidant behavior. Understanding how the processing underlying avoidant and passive behavior occurs will contribute to the development of more effective intervention programs, since social-cognitive processes are highly responsive to cognitive behavioral interventions (Luebbe et al., 2010).

The main goal of the present work is to understand how adolescents from a non-clinical sample varying in their regular behavior styles, process social information along the processing steps integrated in the SIP model (Crick & Dodge, 1994). Therefore, we intend to assess which specific social cognitive patterns lead individuals to engage in passive and avoidant behaviors when confronted with ambiguous social situations (i.e., when other's intentions are not clear). Specifically, we aim to assess whether several steps of SIP, including attribution of intent for other's behavior, emotional experience and evaluation of response, are predictive of avoidant behavior and of the selection of passive responses in social situations. Therefore we expect that the frequency of social avoidance and the selection of passive responses for enactment will be predicted by the assessment of hostile attributions of intent to other's ambiguous behaviors as more likely; the appraisal of shame as a probable emotional response; and the evaluation of passiveness as an adequate and favorable response to the ambiguous provocation situation.

Method

Participants

A convenience community based sample of 580 adolescents was recruited. Subjects attended 9th grade and high school in continental Portugal (9th grade: n=133, 22,9%; 10th grade: n=202, 34,8%; 11th grade: n=174, 29,9%; 12th grade: n=69, 11,9%). Regarding gender, the majority (n=365; 63%) of these adolescents are female, and the remainder (n=215; 37%) are male. Boys and girls are not uniformly distributed by school years

($X^2=10,556$; $df=3$; $p=.014$), with boys being more prevalent than statistically expected in 9th and 10th grades, whereas girls are more prevalent than expected in the 12th grade.

The majority of the participants ($n=351$; 60,5%) had never been retained in the same school year. The obtained mean ages of the participants were 16,59 ($SD=0,58$) for the total sample; 16,61 ($SD=0,62$) for girls; and 16,55 ($SD=0,50$) for boys. There were no differences between boys and girls regarding mean age ($t= -1.311$; $df=578$; $p=.190$).

The major part of the participating adolescents ($n=549$; 94,5%) lived with their nuclear family members. Concerning the socioeconomic status, it was assessed based on the professions of adolescents' parents. Thus, 44,1% ($n=256$) were from a low status; 37,6% ($n=218$) were from a middle status; 2,1% ($n=12$) were from a high status and 16,2% ($n=94$) haven't provided this information.

Regarding gender and socioeconomic status variables, the sample is not uniformly distributed, although these differences remain close to a non-significant level ($X^2=6,433$; $df=2$; $p=.040$). Observing the data, it indicates that girls are more prevalent than statistically expected in the lower SES group, whereas boys are more prevalent than expected in the medium and high SES.

Instruments

Scenes for Social Information Processing in Adolescence (SSIPA) (Vagos, Rijo & Santos, 2015)

SSIPA is a self-report questionnaire designed to evaluate adolescents' social information processing (SIP). This instrument intends to characterize specific SIP styles underlying different types of behavioral responses to ambiguous provocation scenarios, by evaluating four essential steps of the SIP model (Crick & Dodge, 1994), namely interpretation (attribution of intent), emotion intensity, response evaluation and response decision.

Respondents are presented with six hypothetical scenes of relational (i.e. threat towards relationship or social status) and overt (i.e. threat of physical or instrumental harm) provocation and are asked to imagine that they are participating in the event. For each scene, they rate the probability of attributing both a hostile (e.g., "They don't like me and don't want to talk to me") and a neutral (e.g., "They were distracted and didn't

see me”) attribution to the provocateur’s behavior. They then rate the intensity of three possible emotions (anger, sadness and shame) that they might feel in that situation. For assessing the response evaluation step, adolescents evaluate each one of four social behavior options (assertiveness, passiveness, overt aggression and relational aggression) according to different criteria of evaluation (response valuation, response self-efficacy, personal outcome expectancy and social outcome expectancy). Lastly, the individual rates how likely he/she would decide on enacting each of those behavioral responses.

Psychometric studies of this instrument using exploratory and confirmatory factor analytic procedures resulted in a totality of seventeen measures, achieving satisfactory internal consistency values, overall fit indicators and factorial invariance by gender (Vagos, Rijo & Santos, 2015). In the present study, we intend to include 8 of these measures, with internal consistency values ranging from .70 to .87 in the original study (Vagos et al., 2015).

Particularly, within the current work objectives and using the current sample, we will be using one measure of hostile attribution ($\alpha=.69$) and one measure of neutral attribution ($\alpha=.67$) for evaluating attribution of intent. Then we’ll make use of three measures of emotion, specifically shame ($\alpha=.76$), anger ($\alpha=.75$) and sadness ($\alpha=.68$). Regarding the response evaluation step, we’ll use two measures concerning passive responses, namely relationally provoked response evaluation for passiveness ($\alpha=.83$) and overtly provoked response evaluation for passiveness ($\alpha=.87$). Finally, we will employ the measure of response decision for passiveness ($\alpha=.68$).

Social Anxiety and Avoidance Scale for Adolescents (SAASA) (Cunha, Pinto-Gouveia & Salvador, 2008)

SAASA is a self-report questionnaire used to assess the degree of distress and the frequency of avoidant behaviors through a range of social situations commonly feared by adolescents. The instrument consists of 34 items that are rated on two scales (anxiety/distress and avoidance, with rating scales ranging from 1 – “none/never” to 5 – “very much/almost always”, respectively), which are highly correlated ($r=.85$). Both scales obtained high internal consistency values ($\alpha=.91$ for anxiety/distress and $\alpha=.87$ for avoidance scale) in previous psychometric studies (Cunha, Pinto-Gouveia & Salvador, 2008).

In the present study we will only use the avoidance scale, given that we only want to assess how frequently the adolescents from our sample engage in avoidant behaviors both in interaction and performance social situations.

Previous exploratory and confirmatory factor structure analysis demonstrated a 6 factor solution for both scales, which revealed good internal consistency values in the present sample for the avoidance scale: 1) Interaction in new situations ($\alpha=.79$); 2) Interaction with the opposite sex ($\alpha=.87$); 3) Performance in formal situations ($\alpha=.81$); 4) Assertive interaction ($\alpha=.74$); 5) Being observed by others ($\alpha=.77$); and 6) Eating and drinking in public ($\alpha=.82$).

We will consider these dimensions as organized into two categories, namely performance/observation situations (Performance in formal social situations, Being observed by others and Eating and drinking in public) and social interaction situations (Interaction in new social situations, Interaction with the opposite sex and Assertive interaction), in order to address the most prominent subtypes of social anxiety and avoidance. We organized these dimensions taking into account references from the literature, which make the distinction between different subtypes of social anxiety as being qualitatively distinct. Interaction anxiety has been referred to be specific to situations when the individual interacts with another person or within a group (e.g., talking to someone, going to parties, meeting strangers). On the other hand, performance anxiety is related to situations when one is exposed to the occasion of being observed or scrutinized by others (Heimberg et al., 1999).

Good internal consistency values were obtained in the current sample, for both the interaction ($\alpha=.89$) and performance ($\alpha=.89$) dimensions of avoidance, in addition to adequate adjustment indicators using confirmatory factor analysis on this measurement model (cf. Results section).

Procedures

Data collection

Data collection for the present study was approved by the national committee for evaluation of ethics and procedures of studies to be conducted in school settings. Authorization was obtained from schools' responsible entities and from parents of participants under 18 years of age. The adolescents filled in the instruments alongside a

socio-demographic information sheet in the classrooms, in time made available by one of their teachers, after being given information about the goal of the investigation. All adolescents voluntarily accepted to participate in the study, after being assured on the confidentiality and anonymity of their responses.

Data analysis

Firstly, the data was explored using the SPSS software, for reliability analysis on each measure/dimension we intended to include on our study. Also, the distribution of the results of each measure was analyzed against a normal distribution. We found that our data deviated from the normal distribution for all the measuring variables (KS values ranging between .08 and .22; $p < .001$), which requires the use of non-parametric tests.

Subsequently, data analysis was conducted using MPlus software, version 6.12 (Muthén & Muthén, 2001), with WLSMV (Weighted Least Squares Means and Variances Adjusted), in order to perform confirmatory factor analyses on the hypothesized measurement models of the measures proposed to be evaluated by the SSIPA and the SAASA. Structural equation modeling (SEM) was then performed for the hypothesized structural model, describing the SIP that might underlie the enactment of passive and avoidant social behaviors. SEM has been described as a combination of factor analysis and multiple regressions and it tests hypothesized patterns of linear relationships among a set of observed and latent variables (MacCallum & Austin, 2000). The main advantage of SEM over multiple regression analysis is that it evaluates the magnitude of relations between theoretical constructs while controlling for the associated measurement error. Additionally it allows us to simultaneously estimate multiple equations in a single model (Kline, 2005).

Acceptability of the models must be reached after examination of measures assessing different aspects of model fit. Given that chi-square test frequently rejects the model adequacy because of its sensitivity to several factors such as sample size, it is necessary to complement this measure with other measures of absolute fit (Hair, Babin, Anderson & Black, 2009). The goodness-of-fit of both structural and measurement models was analyzed using a combination of fit indices, taking into account the cut-off

criteria suggested by Diamantopoulos and Siguaaw (2000): χ^2 ($p \geq .05$); RMSEA ($\leq .08$); CFI (closer to 1) and SRMR [only for the structural model ($\leq .05$)].

Results

Confirmatory Factor Analysis

Confirmatory Factor Analysis was conducted in order to examine the validity of the factorial structure for each of the measurement models and its adjustment to our sample data.

Good fit indices were found for most of the measurement models, including those that consisted one single measure for: Hostile Attribution ($\chi^2=13.272$; $df=5$; $p=0.0210$; RMSEA=0.05; CFI=0.99); Neutral Attribution ($\chi^2=0.622$; $df=2$; $p \geq .05$; RMSEA=0.00; CFI=1.00); Anger ($\chi^2=5.220$; $df=5$; $p \geq .05$; RMSEA=0.00; CFI=1.00); Shame ($\chi^2=1.778$; $df=2$; $p \geq .05$; RMSEA=0.00; CFI=1.00); Sadness ($\chi^2=1.189$; $df=2$; $p \geq .05$; RMSEA=0.00; CFI=1.00); Response decision for passiveness ($\chi^2=4.340$; $df=2$; $p \geq .05$; RMSEA=0.04; CFI=0.99).

Response evaluation of passiveness (for overt and relational scenarios) and Avoidance (for interaction and performance dimensions) were performed as second-order factorial models. In the first case, according to the original study on the SSIPA (Vagos et al., 2015), evaluation criteria were taken as first-order factors based on the items' responses as observed indicators; in the second case, the dimensions proposed by Cunha and colleagues (2008) were taken as first-order factors based on the items' responses as observed indicators, and were organized as described above (cf. Instruments section).

Both of the models obtained acceptable fit indices, considering RMSEA and CFI: Response evaluation ($\chi^2=735.726$; $df=245$; $p < .001$; RMSEA=0.05; CFI=0.97) and Avoidance ($\chi^2=1162.250$; $df=427$; $p < .001$; RMSEA=0.05; CFI=0.94).

Structural Equation Modeling

Based on our previous theoretically derived hypothesis, a structural model was created and tested using Structural Equation Modeling (SEM), in order to analyze statistically the theoretical relations among the constructs under study (i.e., measures of

the SSIPA instrument and dimensions of avoidance integrating SAASA). The model proposed that decision of passive responses as well as the frequency of avoidant behavior would be predicted by evaluation of passive responses as adequate, feelings of shame and hostile attribution of intent to others' behavior. Other negative emotions (anger and sadness) were included to test whether avoidant behavior is related to different emotional reactions beyond shame. Neutral attribution was also introduced in the model in order to test whether the frequency of avoidant behaviors and the decision of passive responses are uniquely predicted by hostile attribution of intent or are instead predicted by the simultaneous presence of both attribution styles.

The original model revealed a poor fit to the data ($\chi^2= 4668.942$; $df=1722$; $p<0,001$; $RMSEA=0.05$; $CFI=0.84$; $SRMR=0.08$). Analyses of its paths showed the presence of many non-significant pathways. In order to improve the comprehensibility and parsimony of the model, all direct effect paths that were non-significant ($p>.05$) were excluded, namely: evaluation of passive responses in relational provocation predicting avoidance (interaction and performance) or decision of passiveness; neutral attribution predicting anger, sadness, avoidance (interaction and performance) or decision for passive responses; anger predicting evaluation of passive responses in relational provocation, decision of passiveness or avoidance; sadness predicting evaluation of passive responses in relational provocation, avoidance of performance situations and decision of passiveness; shame predicting evaluation of passive responses, both for relational and overt provocation.

After removing these non-significant paths, the model was reanalyzed. Additionally, following the indications of modification indices, some correlations were added, specifically between both measures of Evaluation of passive responses (Relational with Overt) and between measures of emotion (Sadness with Shame, Sadness with Anger, and Anger with Shame).

The final model (cf. **Figure 1**) revealed good absolute fit indices considering $RMSEA (\leq .08)$ and $SRMR (\leq .05)$: $\chi^2= 4132.430$; $df= 1732$; $p<.001$; $RMSEA=0.04$; $SRMR=0.05$. Although incremental fit indices did not reach the recommended level ($CFI=0.87$), the model is deemed acceptable.

Concerning coefficients of determination (R-squared values), we observed that the structural model accounted for a significant proportion of variance among most of the

measures, with values ranging from 14,2% to 88,6% (cf. Figure 1). Considering that decision of passive responses accounts for the greatest proportion of variance in the model ($R^2=.88$), we concluded that this measure is strongly explained by the hypothesized structural model.

Direct and indirect effects between variables were analyzed by standardized coefficients (β), obtained with a maximum likelihood estimation method and considering a .05 level of significance. As expected, hostile attribution positively predicted all three negative emotion measures (anger, $\beta=0.164$; shame, $\beta=0.126$; sadness, $\beta=0.166$) at a significant level ($p<.001$). Evaluation of passive responses both in relational ($\beta=0.117$; $p<.001$) and overt ($\beta=0.084$; $p<.001$) provocation scenarios, as well as decision of passive response ($\beta=0.025$; $p<.05$), were also directly predicted by hostile attribution of intent.

Hostile attribution was also a positive predictor of avoidance of social situations, both for interaction ($\beta=0.048$; $p<.05$) and performance ($\beta=0.049$; $p<.05$) dimensions.

Shame also revealed a direct effect on predicting these two types of avoidance (Interaction: $\beta=0.134$; $p<.05$; Performance: $\beta=0.229$; $p<.001$) as well as decision of passiveness ($\beta=0.088$; $p<.05$). Sadness revealed a positive predictive effect only on interaction avoidance ($\beta=0.140$; $p<.05$) and evaluation of passive responses in overt scenarios ($\beta=0.117$; $p<.05$).

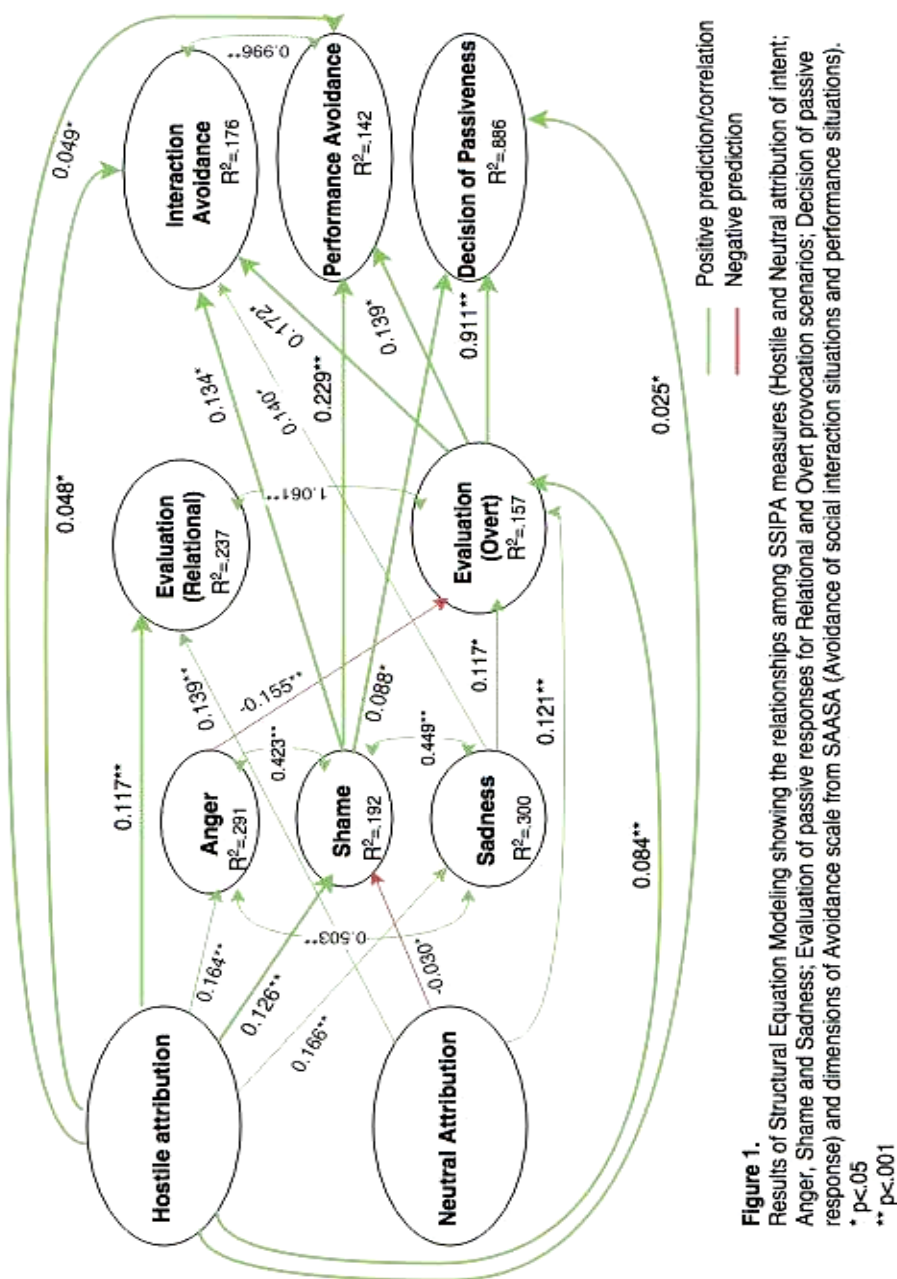
Neutral attribution emerged as a negative predictor of shame ($\beta= -0.030$; $p<.05$). On the other hand, it demonstrated to be stronger than hostile attribution at predicting evaluation of passive responses both on relational ($\beta=0.139$; $p<.001$) and overt ($\beta=0.121$; $p<.001$) provocation scenarios.

The only observed effect of anger is a negative prediction on evaluation of passiveness in overt provocation scenarios ($\beta= -0.155$; $p<.001$). Evaluation of passive responses in relational scenarios didn't induce any predictive effect on other variables.

The strongest observed prediction in the model is between evaluation of passive responses in overt provocation scenarios and decision of passiveness ($\beta=0.911$; $p<.001$).

Regarding indirect effects, evaluation of passiveness (overt) was also a mediator of the relation between neutral attribution and decision of passiveness ($\beta=0.160$; $p<.001$), which means that neutral attribution has an indirect effect on decision of a passive response through evaluation of passive responses as adequate in overt

provocation scenarios. Shame also mediated the predictive effect of hostile attribution on the decision of passiveness ($\beta=0.011$; $p<.05$). However, sadness along with evaluation of passive responses (overt) seemed to be better mediators of this relation ($\beta=0.018$; $p<.05$) than did shame. The same happened for the relation between hostile attribution and avoidance of interaction situations, with sadness ($\beta=0.023$; $p<.05$) being a stronger mediator between these variables than shame ($\beta=0.017$; $p<.05$).



Discussion

The main goal of our study was to understand how adolescents who engage in avoidant and passive behaviors process social information through a sequence of steps proposed by a Social Information Processing framework. Using structural equation modeling, we tested a hypothetical model to evaluate the relationships between several steps of SIP on the one hand and avoidance behavior frequency on the other. Taking into account the evidence found in the literature about information processing in social anxiety, we hypothesized that adolescents with avoidant and passive behaviors would show similar patterns to those of socially anxious people.

Our final model fitted to the data satisfactorily and our general hypotheses were supported. As expected, hostile attribution of intent was a positive predictor of the frequency of avoidance behavior, both in interaction and performance situations, and it also predicted the selection of passive responses when faced with social provocation scenarios. Although the observed effects were relatively weak, these results are congruent with our hypotheses; that is, adolescents who engage in avoidant behaviors may be prone to interpret reactions from others as holding a negative intent. These findings are consistent with cognitive theories of social anxiety, which postulate that individuals with high levels of social anxiety usually interpret social situations as threatening and, consequently, avoid situations that could result in negative outcomes such as rejection or humiliation (Clark, 2001; Rapee & Heimberg, 1997). Taking into account the extant evidence for information processing biases in social anxiety, and hypothesizing that the same or similar biases underlie avoidant social behaviors in a non-clinical sample, our results may suggest that when others' intentions of behavior are not clear, individuals who frequently avoid social situations attribute hostile intentions to their behavior, because they might believe that other people view them as undesirable, unattractive and inferior or even because they evaluate others as critical, dominant and hostile (Clark & Wells, 1995; Leary et al., 1988).

Unexpectedly, neutral attribution of intent was a positive predictor of evaluation of passive responses, both in overt and relational provocation scenarios. This means that even if adolescents don't evaluate other's behavior as holding an intention of causing harm to them on purpose, they still appraise passive responses as an adequate behavior. Since they do not interpret the situation as threatening, we hypothesize that adolescents

who endorsed neutral attribution as more likely, might have evaluated passive responses as an acceptable way to maintain appreciated relationships with others, instead of a self-protective strategy with the intent to avoid negative consequences for themselves. This finding is in line with considerations from the authors of the SSIPA (Vagos et al., 2015), given that they refer to passiveness as an absence of activity in social events, rather than an expression of behavior such as those characteristic of social anxiety (e.g., submission or avoidance). Therefore we might state that this pattern of neutral attribution and subsequent positive evaluation of passiveness is not related to the enactment of dysfunctional avoidant social behaviors.

These results support the relevant role of attribution of intent on behavioral decision making. Even though attribution of intent by itself is not sufficient to fully explain the process through which a behavioral response is selected, the SIP model postulates that it exerts a crucial influence on subsequent steps of processing.

Several authors (Crick & Dodge, 1994; Lemerise & Arsenio, 2000) have proposed that emotional processes constitute an integral part of SIP, by organizing and motivating cognitive processing, which facilitates the prosecution of goal-directed behaviors. Therefore, these authors argue that the inclusion of emotion in SIP models would increase our understanding of social decision making. For this reason, we intended to analyze whether different types of negative emotion could play distinct roles in explaining avoidant and passive behavior. As we expected, hostile attribution positively predicted all three negative emotions (sadness, anger and shame) in a similar degree. Thus, attributing hostile and threatening intentions to other's behavior can lead to a variety of negative affect states and not only anger, which has been the only emotion consistently addressed in previous SIP studies (e.g., Orobio de Castro et al., 2005).

Considering direct and indirect effects of emotions in our model, we observed that shame played a crucial role when predicting avoidance of social situations (both interaction and performance) and, on a lesser degree, decision of passive behavior. This is in line with our expectations, since shame has been consistently associated with social anxiety and avoidance of social situations, given that it involves a concern of being negatively judged by others (Fergus et al., 2010; Lutwak & Ferrari, 1997). Furthermore, our findings are consistent with a social rank theory, which conceives shame as arising from a perception of the self as being positioned in an undesired low social rank

position (i.e., feeling inferior). In order to prevent potential damages to the social self (such as being negatively evaluated and rejected), individuals frequently adopt damage limitation strategies, which include submissive behaviors and escape from social situations (passivity and avoidance) (Fergus et al., 2010; Gilbert, 2000; Muris & Meesters, 2014; Tangney & Tracy, 2012). The engagement on avoidant behaviors might therefore be related to an appraisal of social situations as a context for competing for social status and a view of the self as inferior and inadequate in comparison with others (Aderka, Weisman, Shahar & Gilboa-Schechtman, 2009; Trower & Gilbert, 1989).

Interestingly, shame was a stronger predictor of avoidance in performance/observation situations than in interaction contexts, while sadness only predicted avoidance of interaction situations. Both sadness and shame have been frequently reported as predictors of avoidance behavior tendencies, frequently arising from a desire to withdraw from shameful situations (Elison, Pulos & Lennon, 2006; Schmader & Lickel, 2006). Nevertheless, the finding of sadness emerging as a stronger predictor of interaction avoidance compared to shame is somewhat inconsistent with our expectations. We advance a possible explanation that sadness and shame overlapped and that the feelings of sadness reported by adolescents in our model are secondary to an experience of shame, arising from an internalized negative perception of the self (i.e., as inferior and inadequate) (Gilbert, Allan, Brough, Melley & Miles, 2002; Gilbert & Irons, 2009; Muris & Meesters, 2014; Tracy & Robins, 2004). This hypothesis is congruent with the assumption that the fear of interaction situations is essentially related to a pattern of negative self-evaluation (i.e., internal shame) (Hook et al., 2013), which would more easily lead to an experience of sadness, even if secondary to the experience of shame (Gilbert et al., 2002).

Concerning the response evaluation step in SIP, we expected that individuals who frequently behave in passive and avoidant ways would evaluate passive behavior as a more adequate response, either because they expect it to be easier to perform (self-efficacy) or because they expect it to lead to positive outcomes both for themselves (personal outcome) and for the relationships with others (social outcome). However, despite being part of the questionnaire (SSIP), these criteria of evaluation of response did not emerge after confirmatory and exploratory factor analyses as independent measures (Vagos et al., 2015) and so were not assessed as separate measures; hence we

cannot presently infer conclusions regarding these specific hypotheses. Instead, the response evaluation step was assessed separately for relational and overt provocation scenarios because the nature of provocation has been found to be associated with different patterns of SIP and social behavior (Bailey & Ostrov, 2008). Relational provocation scenarios involve ambiguous social situations which could represent harm towards the social self and that could damage relationships with others (e.g., risk of being excluded or rejected). Overt provocation, on the other hand, represents ambiguous situations in which there is an observable behavior that could lead to physical or instrumental harm directly to the self (Vagos et al., 2015).

Anger only emerged as a negative predictor of evaluation of passive responses in overt provocation scenarios, which means that the more the adolescents reported feelings of anger, the less favorably they evaluated passive responses, which is congruent with previous research on aggressive behavior (e.g., Harper et al., 2010).

Sadness was a unique predictor of evaluation of passive responses in overt scenarios, while shame did not predict response evaluation either in relational or overt provocation scenes. We argued that negative self-perceptions derived from feelings of shame could lead to feelings of sadness and a pattern of negative thinking (Cheung, Gilbert & Irons, 2004), which would influence the subsequent information processing, specifically the response evaluation step. Therefore, adolescents who reported feelings of sadness might have evaluated passive behavior favorably when confronted with overt provocation because those situations might involve perceptions of the self as defeated and inept to solve potential conflicts with others (Gilbert & Allan, 1998; Gilbert et al., 2002). Hence, we hypothesize that these individuals might hold a reduced self-efficacy perception for performing other type of behaviors (e.g., assertive), as well as expectations of positive (or at least, not aversive) outcomes associated with the enactment of passive behavior (e.g., avoid conflicts with others or prevent some type of harm). Given that this explanation is merely hypothetical, we argue that future studies would benefit from a separate assessment of evaluation of response criteria.

On the other hand, evaluation of passiveness in relational scenarios predicted neither avoidance behavior nor decision of passive responses. These results were somewhat surprising since we would expect favorable evaluation of passiveness in relational threatening scenarios to be a strong predictor of social avoidance. This

expectation was based on the assumption that the concerns underlying avoidant behaviors in social situations are essentially related to the fear of being negatively judged and, as a result, to lose social resources (i.e., being rejected/excluded by others), which would be more likely to happen in relational provocation situations. Therefore we would expect that adolescents who avoid social situations would evaluate passive responses in relational scenarios as an adequate behavior to prevent such fears from becoming a reality. Regarding the divergent findings, we hypothesize that these individuals, similarly to socially anxious individuals, are primarily interested in maintaining positive relationships with others and being appreciated by them (Matos et al., 2013; Rapee & Heimberg, 1997). In the meantime, they are strongly motivated to avoid exposure to a potential negative evaluation (Kashdan, Elhai & Breen, 2008), which may lead them to engage in automatic, emotional and preemptive processing (i.e., activating their schemas related to a perception of danger), in detriment of more elaborated aspects of decision making (Fontaine, 2008; Lemerise & Arsenio, 2000). Therefore, we assume that despite behaving in avoidant and passive ways when confronted with situations that may represent a threat of losing social status and acceptance (i.e., being rejected), these individuals generally don't evaluate those behaviors as adequate because acting passively is not congruent with their relationship-oriented goals (i.e., to maintain constructive and rewarding relationships with others).

Considering these unexpected results regarding the evaluation of response, we propose that overt and relational provocation contexts would imply distinct cognitive and emotional processes. Specifically, the relation between hostile attribution and avoidance/passive behavior appears to be mediated by sadness and response evaluation of passiveness as adequate in overt scenarios, while in relational scenarios these mediating effects did not emerge. As exposed previously, we would suggest that the response evaluation step in SIP may not exert a significant effect on deciding on a behavior regarding relational scenarios because these situations may involve a more relevant threat meaning to individuals with social avoidant behavioral patterns, thus inhibiting more reflective processes of decision making. In contrast, overt provocation may be considered as less threatening to the social self, in addition to a passive reaction being evaluated as more generally socially acceptable.

Another important finding of our study was related to the distinctive influence of sadness and shame on avoidance of interaction and performance situations, usually conceptualized as corresponding to different subtypes of social anxiety (Hook & Valentiner, 2002). Shame showed a greater impact on the avoidance of performance situations, while sadness uniquely predicted interaction avoidance. We hypothesize that sadness might have been elicited by feelings of internal shame (i.e., a perception of the self as inferior and inadequate), which has been associated with the fear of interaction situations (Hook et al., 2013). Shame, on the other hand, might have represented a general concern with what others think about the self, not necessarily involving an internalized negative self-perception (Gilbert et al., 2002), which would explain its strongest relation with avoidance of performance situations. Therefore, we argue that these findings suggest the importance of future research to consider the qualitative distinction between categories of feared social situations, taking into account the unique underlying cognitive and emotional processes in each type of contexts.

Limitations and future research

This study has some limitations that should be considered when analyzing outcomes. The first one relates to the poor adjustment of the tested model concerning some goodness-of-fit indices and the weak magnitude of some observed relations between the variables, which, despite being significant, may require caution in the generalization of the findings. Another limitation is associated with the hypothetical nature of the scenarios presented to our sample and the self-response format of SSIPA. As any other self-report instrument on SIP, this instrument fundamentally assesses a rational and reflective information processing, thus possibly precluding findings on what would characterize the more automatic mechanisms that probably resemble the way adolescents process information and behave in real life situations (Orobio de Castro, 2004; Vasey, Dalgleish & Silverman, 2003). In order to overcome this limitation, future studies could use assessment methods requiring a greater emotional involvement, such as leading individuals to engage in real social interactions and then evaluate their emotional and cognitive responses. The use of a non clinical sample might also be a limitation to the extent that we're not able to make inferences regarding the nature and etiology of intense and generalized avoidant behaviors; that is, we cannot

ascertain whether these levels of social avoidance are related to a clinical manifestation of social anxiety or otherwise might be explained by specific developmental issues and thus we can't specify if the observed processing patterns are related to some degree of psychopathology.

Further efforts should be made in order to clarify if stronger effects would arise in clinical samples and whether these processing biases and the frequency of avoidance behaviors are specifically related to social anxiety concerns or common across a variety of problems. Longitudinal studies would also be relevant to determine whether these patterns are stable across time or are instead typical of a specific stage of development. Some of the exposed limitations might be addressed using samples of adolescents at risk for developing clinical problems and relying on distinct moments of evaluation, in order to determine whether specific information processing biases are associated with the etiology and development of dysfunctional behaviors, whether these biases are responsive to clinical intervention and whether modifications in processing biases lead to behavioral changes (Bijttebier, Vasey & Braet, 2003; Vasey et al., 2003).

Conclusions and clinical implications

Adolescence is associated with an increasing emergence of social concerns, which makes it a vulnerable period for the development of social anxiety related difficulties (Kashdan & Herbert, 2001); thus it seems imperative to detect these difficulties at an early stage in order to prevent their clinical manifestation. Evaluating simultaneously several social-cognitive and emotional processes may help clinicians to more easily detect the biases and deficits of processing underlying the enactment of avoidant behaviors (Luebke et al., 2010). This study provided evidence that the information processing patterns related to a clinical manifestation of social anxiety, presumably underlying dysfunctional avoidant behaviors, are identical to those held by adolescents from a non-clinical sample, which may constitute a contribution to understanding how these behaviors progress into pathological levels. Additionally, our findings contribute to support the validity of SIP assessing instruments as valuable tools for identifying maladaptive social-cognitive processes, which represents a step forward in the improvement of the clinical utility of such measures. In general, our findings provided support for the validity of SIP model as a useful framework for understanding the

development and maintenance of avoidance behaviors, which usually lead to severe impairment in adolescents' social adjustment (Alden & Taylor, 2004).

Specifically, the results supported the simultaneous presence of several maladjusted cognitive patterns that might influence the enactment of passive and avoidant behaviors, such as negative interpretations of others' behaviors and favorable evaluation of passive responses. These cognitive distortions may contribute to maintain maladaptive behaviors, not allowing for the disconfirmation of individuals' beliefs about the negative consequences of social situations (Hofmann, 2007). Moreover, this study supports and adds validity to the inclusion of emotional processes in the original SIP model, reinforcing the direct and indirect influence that emotions exert on behavior enactment, through dynamic relations with cognitive processes. In summary, we state that both emotional and cognitive biased processes should be addressed in cognitive-behavioral interventions when considering the modification of avoidant behaviors.

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¹The whole references are presented in the general bibliography of this dissertation

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