

UNIVERSIDADE DE LISBOA
FACULDADE DE PSICOLOGIA



Perceptions of Behaviours of Children versus Adults

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MESTRADO INTEGRADO EM PSICOLOGIA

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Abstract

Person perception has profusely investigated how people perceive one another and infer traits from other people's behaviours. Attribution and dispositional inference theories have helped to explain how these perceptions occur. Since most research has focused solely on behaviours performed by adults, we explored if people interpret trait-implying behaviours differently when performed by children and adults, as well as tested whether people's causal attributions for those behaviours are different depending on the actor's age group. In Study 1, participants ($N = 84$) read a series of trait-implying behaviours paired with an adult's or a child's face, and had to describe the behaviours using a word or two. Overall, participants' descriptions included the trait implied by the behaviour more frequently when the actor was an adult than a child, particularly when the trait was negative. When the actor was a child, participants used more non-trait words to describe the behaviours, particularly the negative ones. In Study 2, a different sample of participants ($N = 65$) rated how likely the cause of each behaviour was something about the person, entity, or circumstance (type of causes) and internal, stable, and controllable (causal dimensions). Compared to adult actors, children's behaviour was less attributed to the person and more to the circumstance when the implied trait was adult-stereotypic. In general, adults' behaviour was more attributed to the entity (i.e., another person/object in the situation) than children's behaviour. As predicted, participants made more internal, stable, and controllable attributions to adults' than children's behaviours. Limitations of the current studies and future research avenues are addressed, leading up to the proposal of a follow-up study. Theoretical implications of these findings will be discussed in light of how people perceive children, as well as implications to real life contexts on interpersonal relations with this social group.

Keywords: Person perception, Children, Causal attribution, Trait inference, Stereotypes

Resumo

A percepção de pessoas enquanto ramo da psicologia social investiga, entre outros tópicos, processos de formação de impressões e inferências que as pessoas fazem a partir de comportamentos. Estes processos também são explicados por teorias de atribuição causal. Visto que grande parte da investigação se foca em comportamentos realizados por actores adultos, a presente dissertação tem como objectivo explorar se as pessoas interpretam e categorizam comportamentos implicativos de traços de personalidade de forma diferente quando realizados por crianças e adultos, bem como testar se as atribuições causais para esses comportamentos são diferentes dependendo do actor. No Estudo 1, perante descrições de comportamentos associados a faces de crianças ou adultos, a tarefa dos participantes era descrever esses mesmos comportamentos através de uma ou duas palavras. Os participantes usaram mais frequentemente o traço implicado pelo comportamento (traço esperado) para descrever comportamentos implicativos de traços negativos estereotípicos de adultos quando o actor era adulto do que quando era criança. Quando o actor era criança, os participantes usaram mais palavras “não-traço” para descrever comportamentos implicativos de traços negativos, tanto estereotípicos de adulto como de criança. No Estudo 2, uma amostra diferente avaliou os comportamentos em duas escalas distintas relacionadas com tipos de causa (pessoa, entidade, e circunstância) e dimensões causais (locus de causalidade, estabilidade e controlo). Ao contrário do esperado, actores adultos não levaram a mais atribuições à pessoa do que actores crianças. As atribuições dos participantes revelaram que comportamentos implicativos de traços estereotípicos de criança foram percebidos como tendo sido mais co-causados por causas externas (entidade e circunstância) quando o actor era adulto. Tal como esperado, os resultados mostram que os participantes fizeram mais atribuições internas, estáveis e controláveis para comportamentos realizados por adultos. Limitações e considerações futuras são abordadas, bem como se propõe um estudo de follow-up. Implicações teóricas dos resultados encontrados

são discutidos à luz de como é que as pessoas percebem as crianças, assim como implicações em contexto real nas interações com este grupo social.

Palavras-chave: Percepção de pessoas, Crianças, Atribuição causal, Inferência de traço, Estereótipos

Resumo Alargado

A percepção de pessoas enquanto área de estudos da psicologia social investiga, entre outros tópicos, processos de formação de impressões e inferências que as pessoas fazem a partir de comportamentos. Para realizar esses processos, as pessoas utilizam frequentemente dois tipos de informação: estereótipos e informação individualizada, sendo que os estereótipos muitas vezes influenciam a forma como os observadores interpretam os comportamentos dos actores (*categorização* dos comportamentos), bem como as inferências de traço que fazem a partir desses comportamentos (*caracterização* dos actores). Teorias de atribuição causal também ajudam a explicar estes processos de formação de impressões e de inferência de traços de personalidade, através das causas que as pessoas atribuem aos comportamentos dos actores. Modelos mais recentes de atribuição causal e inferência disposicional assumem que após processos iniciais automáticos de inferência de traços, as pessoas investem em processos cognitivos mais exigentes para avaliar se os comportamentos foram causados pela personalidade do actor ou constrangimentos impostos pela situação (*correção* das inferências).

Visto que grande parte da investigação se foca em comportamentos realizados por actores adultos, a presente dissertação tem como objectivo explorar se as pessoas interpretam e categorizam comportamentos implicativos de traços de personalidade de forma diferente quando realizados por crianças e adultos, bem como testar se as atribuições causais para esses comportamentos são diferentes consoante o actor é adulto ou criança. De facto, existem algumas evidências de que as crianças enquanto grupo social são percebidas de forma diferente (e.g., mais associações de emoções positivas com faces de crianças), e sendo que constituem mais de 25% da população mundial, torna-se relevante estudar como é que outros grupos sociais percebem os seus comportamentos e intenções.

No Estudo 1, perante descrições de comportamentos associados a faces de crianças ou adultos, a tarefa dos participantes ($N = 84$) era descrever esses mesmos comportamentos

através de uma ou duas palavras. No geral, os participantes usaram mais frequentemente o traço implicado pelo comportamento (traço esperado) quando o actor era adulto do que quando era criança. Quando o actor era criança, os participantes usaram mais palavras “não-traço” do que quando o actor era adulto. Estas diferenças foram mais pronunciadas quando o traço implicado pelo comportamento era negativo, tanto traços estereotípicos de adulto como de criança. Estes resultados indicam que a categorização de um mesmo comportamento difere consoante a idade do actor, sendo que no caso das crianças, a forma como os comportamentos foram categorizados não facilitou uma caracterização correspondente dos actores (i.e., a mesma palavra ser utilizada para descrever o comportamento e o actor) tanto quanto no caso dos adultos. As descrições de comportamentos implicativos de traços negativos sugerem ainda que as pessoas são menos críticas quando realizados por uma criança do que quando realizados por um adulto. No Estudo 2, estávamos interessadas em perceber se as atribuições causais face a um mesmo comportamento também poderiam diferir consoante a idade do actor. Assim, uma nova amostra de participantes ($N = 65$) avaliou quão provável eram três tipos de causas para cada comportamento: algo acerca da pessoa (um traço de personalidade), da entidade (outra pessoa/objecto presente na situação), ou da circunstância (algo específico do momento em que o comportamento ocorreu). Os participantes avaliaram ainda quão interna, estável e controlável (dimensões causais) era a causa. No geral, comportamentos de actores adultos não levaram a mais atribuições à pessoa do que comportamentos de actores crianças. No entanto, levaram a mais atribuições à entidade, sugerindo que os comportamentos realizados por adultos foram percebidos como mais responsivos à situação. Em comparação com actores adultos, comportamentos realizados por crianças foram menos atribuídos à pessoa e mais à circunstância quando implicavam um traço estereotípico de adulto. Em conjunto com comportamentos implicativos de traços estereotípicos de adultos terem levado a mais atribuições à pessoa quando o actor era adulto, estes resultados são concordantes com o facto de comportamentos implicativos de traços congruentes com o estereótipo levarem a mais

atribuições disposicionais, enquanto comportamentos implicativos de traços contra-estereotípicos tenderem a ser atribuídos a causas situacionais. As atribuições dos participantes revelaram também que comportamentos implicativos de traços estereotípicos de criança foram percebidos como tendo sido mais co-causados por causas externas (entidade e circunstância) quando o actor era adulto. É interessante notar que quando o actor era criança e o comportamento implicava um traço estereotípico de criança, os participantes fizeram mais atribuições à entidade do que quando o traço era estereotípico de adulto, mas não se verificou diferença nas atribuições à circunstância para estes tipos de comportamentos. Uma vez que entidade e circunstância são ambas causas externas, estes resultados apoiam a visão de que as causas não devem dividir-se apenas em pessoais e situacionais. Relativamente às dimensões causais, tal como esperado, os resultados mostram que os participantes atribuíram causas mais internas, estáveis e controláveis a comportamentos realizados por adultos comparativamente com crianças. Tal vai ao encontro da visão de que as crianças, por serem menos desenvolvidas do que os adultos, ainda não têm as suas personalidades completamente formadas, sendo estas mais maleáveis, e têm menos controlo sobre o seu ambiente. Também se recolheu informação acerca da frequência de contacto com crianças, no entanto não foi possível testar a hipótese de que pessoas com diferentes graus de contacto demonstrariam diferentes resultados.

Ainda que os presentes estudos tenham contribuído para melhor compreender as inferências que as pessoas fazem a partir do comportamento das crianças enquanto grupo social, ainda há muito por responder. Algumas questões prendem-se com limitações dos presentes estudos. Por exemplo, as faces dos actores (tanto de crianças como de adultos) tinham uma expressão sorridente, no Estudo 1 a codificação das respostas dos participantes foi feita pelas próprias investigadoras, bem como a construção das possíveis causas (centradas na pessoa, entidade ou circunstância) no Estudo 2. Todos estes aspectos podem ter introduzido enviesamentos indesejados, pelo que seria benéfico replicar os presentes estudos com material diferente e obter codificações independentes dos dados.

Outras questões prendem-se com a exploração de novas formas de examinar as diferenças obtidas. Dado que no Estudo 1, em geral, os participantes inferiram menos o traço esperado quando o actor era criança (ao invés de inferirem um traço diferente), é apresentado um estudo de follow-up, com o objectivo de explorar até que ponto é que os participantes categorizaram de forma diferente os comportamentos, ou antes ajustaram as suas inferências. Para tal, propõe-se medir os tempos de resposta, bem como a trajectória de respostas em cada resposta. Utilizando um *software* de *mouse-tracking*, os participantes veriam primeiro um comportamento e nos 4 ensaios seguintes teriam de fazer corresponder a face da pessoa (homem, mulher, rapaz, e rapariga, aleatorizados) a um de dois rótulos (típico vs. atípico, balanceados). Trajectórias mais rectilíneas indicariam categorização e trajectórias mais curvilíneas indicariam correção (uma vez que os participantes demoram mais tempo a responder e apesar de inicialmente mostrarem uma tendência para um rótulo, acabam por ajustá-la para o outro).

Por último, é importante ter presente possíveis implicações em contexto real. Uma vez que a forma como percebemos os comportamentos das crianças influencia a forma como reagimos perante os mesmos, torna-se imprescindível consciencializar as pessoas sobre estes processos, visando interações saudáveis com as crianças, principalmente para populações que contactam diariamente com este grupo social (e.g., pais e professores).

Palavras-chave: Percepção de pessoas, Crianças, Atribuição causal, Inferência de traço, Estereótipos

Perceptions of Behaviours of Adults and Children

In our everyday life we come across lots of different people and hence gather lots of information about what we observe in our social interactions. We then assemble all sorts of knowledge into our own “self-other recipe” by which we feel, think and behave. We thus form impressions of people based on categories they belong to, such as age, sex, and race, but also on emotional expressions and behaviours we perceive, as well as intentions and personality traits we infer. Interestingly, Plato already distinguished sense perception from reason and later came Kant (1787): “The understanding can intuit nothing; the senses can think nothing. Only through their union can knowledge arise.” (trans., p.93, 1965). Aristoteles also stated that “we do not have knowledge of a thing until we have grasped its why, that is to say, its cause” (Physics 194 b 17–20).

“I perceived, I inferred, I justified”. Following this line of thought, I will present the current project within person perception’s cloud by reviewing what I have reckoned as relevant (to the present work) theoretical frameworks and classical experiments on what we’ve come to know about: (1) behaviour categorization (e.g., *winning a chess tournament* is perceived as an *intelligent behaviour*); (2) trait inferences (e.g., *someone who wins a chess tournament* is seen as an *intelligent person*); and (3) behaviour causality (e.g., *the person won a chess tournament because all the other players were inexperienced*). I will also approach how we perceive children as a different social category from that of adults and discuss some theoretical implications of the main findings regarding person perception, as well as ramble on practical implications these findings might have on child-adult interactions, and last but not least I will also share some of my own considerations applied to educational settings.

Our main goal is to understand if people extract different information when both child and adult perform the same behaviour and whether causal attributions may play a role in people’s judgements towards behaviours performed by a child versus an adult.

Person Perception

Social psychology has profusely investigated how people form impressions of others, particularly in the field of person perception by focusing on what and how people come to know about each other's dispositions (e.g., traits) based on their behaviours and intentions (Garcia-Marques & Garcia-Marques, 2004). In literature, those who perceive are commonly regarded as observers and those who perform the behaviour regarded as actors. For decades has the person perception field looked over inferential processes elicited by behaviours and ergo three aspects are of utmost importance: 1) interpretation of the behaviours; 2) trait inferences from behaviours (dispositional inferences); and 3) causal attributions to the behaviours. Bearing these in mind and before moving on to specifics, allow me to briefly introduce some person perception models which address these key-aspects.

George Quattrone (1982) model's main argument was that the first information perceived by the observer (about the person or the situation) would function as an anchor to which subsequent information (the behaviour) would be used to adjust the observer's inference. In order to better understand Quattrone's view, let us consider Tversky and Kahneman's (1974) experiment on anchoring effects. Participants' task was to estimate the percentage of African countries in the United Nations, but before answering, they had to first indicate if the correct answer was above or below an arbitrary number determined through spinning a wheel of fortune. While some participants received the number 65, others received the number 10. Interestingly, those who received the higher number inferred a median estimate of 45%, whereas those who received the lower number inferred a median estimate of 25%. As the reader may have assumed by now, the arbitrary spinned numbers (which had absolutely no relation with the correct answer) functioned as anchors to participants' answers. So did externally provided information in Quattrone's (1982) studies. Observers who had read an essay in favour of using nuclear energy, knew the writer's prior attitude (pro nuclear energy), and were aware of the free-choice instructions, used external stimuli (e.g., arguments presented

by the experimenter) as starting points to which they adjusted their inferences (pro essay-congruent situational judgements). However situational attributions would be false because all writers had been exposed to the same arguments (Quattrone, 1982).

Moreover, Yaacov Trope (1986) suggested a two-stage model of person perception: identification processes (e.g., how information from behaviours and situations help identify the action) and dispositional inference processes. He believed that both situational inducements (e.g., a friendly atmosphere) and behaviour transparency (e.g., a clearly vs. ambiguously friendly behaviour) would either facilitate or inhibit dispositional inferences (e.g., a friendly personality). In addition, Trope (1986) also accounts for how the observers' prior information (e.g., the actors' physical appearance, the social category to which they belong, and past behaviours observed) can be integrated into their judgements.

Hereupon, Gilbert, Pelham and Krull (1988) later proposed that person perception is a three stage sequential process where first occurs the *categorization* of the behaviour observed (i.e., identification of actions), then the *characterization* of the actor (i.e., dispositional inferences), and lastly the *correction* of the inference (i.e., adjustments to the inference depending on situational constraints as other plausible causes to one's actions). Given the importance of behaviour interpretation processes (categorization), dispositional inferences (characterization), and causal considerations (correction) to person perception, as well as their relevance to the present research project, I will approach them in greater detail throughout the next subsections.

Behaviour categorization. Interpreting other people's behaviours is a crucial cue to how we perceive them. Although it may seem intuitive that extracting meaning from behaviours is a pretty straight forward task, the challenge is whether we can do it right. Our journey thus begins inside the "categorization box" (*what behaviour is that?*).

When forming impressions of others, we rely on two major types of information: stereotypes (i.e., conceptual knowledge about social groups) and individuating information

(Brewer, 1988; Fiske & Neuberg, 1990). Stereotypes are a powerful weapon and can influence the way we interpret behaviours, particularly when behaviours are ambiguous (Duncan, 1976; Sagar & Schofield, 1980; Kunda & Thagard, 1996). For instance, Duncan (1976) found that *elbowing another person* was interpreted as a jovial shove when the actor was a white person, whereas when the actor was a black person, the same behaviour was interpreted as a violent push. Stemming from Duncan's study (1976), Sagar and Schofield's (1980) demonstrated that the black actors' behaviours were rated more mean and threatening than those of the white actors (not only by white actors, but also by black actors). Besides racial cues, the social category the person belongs to (e.g., construction worker vs. housewife) also disambiguates the behaviour (e.g., *hit someone who annoyed them*), such that *hit someone* if performed by the construction worker is interpreted as *punched an adult*, whereas if performed by the housewife is interpreted as *spanked a child*; Kunda & Thagard, 1996).

Moreover, in 1979, Thomas Srull and Robert Wyer had participants reading a vignette about a man named Donald who behaved in an ambiguously hostile manner. Their task was to rate the hostility of various ambiguously hostile behaviours. Participants who were previously exposed to more hostility-related stimuli (e.g., hostile words) interpreted Donald's ambiguous behaviours as more hostile than participants who were exposed to neutral stimuli. According to Trope (1986), this suggests that the situation (and not stereotypes) produced a strong contextual effect on identification processes. In one of his studies, regarding emotion identification, he found that an ambiguous face was more likely to be perceived as displaying a given emotion (e.g., angry face vs. happy face) if the situation elicited that emotion (e.g., anger-arousing context vs. happy-arousing context) than if it did not (Trope, 1986).

More recent evidence on the basis of the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002), has also shown that regardless of the behaviours' valence, when behaviours match stereotypical expectations, perceivers are likely to make dispositional attributions,

whereas behaviours that are stereotype-inconsistent should be excused away (e.g., situationally caused; Glick et al., 2007, as cited in Cuddy et al., 2008).

Trait Inferences. Fritz Heider (1958) believed that behaviours were the medium for the transmission of enduring psychological characteristics, which leads us to the next “Gilbert’s box”, characterization (*who is that person?*). Heider’s work on interpersonal relations inspired the primordial accounts on person perception, as well as subsequent development of attribution theories. Heider’s (1958) main contribution was that people perceived and explained human behaviour by means of personal causality (intentional behaviours) and impersonal causality (unintentional behaviours). On this account, Edward Jones and Keith Davis’ (1965) correspondent inference model described how observers come to know if an observed behaviour reflects the corresponding trait (or attitude) of the actor. Essentially, their model stated that when perceiving other people, we seek good enough reasons (e.g., intentions and motives) to their behaviour in order to attribute stable characteristics to them (which we only do if the behaviour is intentional; Jones & Davis, 1965). Take for instance, saying someone *did something stupid* is not the same as saying that someone *is stupid* (Newman & Uleman, 1993). Trope (1986) had also pointed out that traits as behaviour identifications and traits as dispositional inferences are a fundamental distinction.

Furthermore, in order to test if a behaviour would only reveal an actor’s true dispositional attitude when intentional (e.g., freewill) and deviated from the norm (i.e., low previous probability), Edward Jones and Victor Harris (1967) had participants read or hear some speeches about racial segregation and other polemical issues where their task was to assess the attitude of the authors of those speeches towards the issues they had written. Speeches could either be of the majority’s opinion (high previous probability) or against the majority (low previous probability) and half the participants were told that the authors had chosen which opinion they wanted to write about, and the other half were told that the authors had been instructed to write about a specific opinion. Jones and Harris (1967) findings were surprising

because contrary to expected, even when the authors of the speeches were forced to write about a certain opinion, participants also assessed the authors' attitudes as correspondent to the opinion written. That is, behaviours were not intentional (e.g., authors did not have a choice in which opinion they would defend) and still participants inferred personal dispositions, even when aware of external factors – a phenomenon called *correspondence bias*. These results brought insight into how dispositional inferences are not dependent on causal attributions (probed in the next subsection).

Insights from a more cognitive approach also emerged regarding when and how people inferred traits from behaviours under mere memory instructions. Following Tulving and Thompson's paradigm (1973), Laraine Winter and James Uleman (1984) set the stage for spontaneous trait inferences (i.e., people infer traits without intention to do so). Winter and Uleman (1984) showed that when a trait implied in the behaviour was used as a recall cue for those behaviours, participants performed better than when having no cue at all. More interestingly, traits were as good as or even better recall cues than strong semantic cues (e.g., highly-related words to an important word present in the behaviour's description). Much like in reading, where we effortlessly draw inferences beyond the information provided, when people read about human actions, they make spontaneous trait inferences about the actors (Uleman, Newman & Moskowitz, 1996). Winter and Uleman (1984) had suggested that trait inferences were a spontaneous part of understanding others' behaviours, as the inferred traits are stored in memory along with the information they were based on (e.g., observed behaviours) and hence help in retrieving that information. Srull and Wyer (1979) also argued that when forming impressions of other people, we spontaneously interpret their behaviours in terms of the trait concepts they represent and which are stored in our memory. Thus, when faced with an ambiguous behaviour where more than one trait fits, the one which we apply is the most easily accessible in memory (Srull & Wyer, 1979).

Around 1990, two models of impression formation processes shed some light on how we integrate categorical information (i.e., stereotypes) with behavioural information: the dual process model of impression formation (Brewer, 1988) and the continuum model of impression formation (Fiske & Neuberg, 1990). Both argue that category-based processes prevail over the individuating processes and hence observers are likely to make automatic stereotypical inferences based on the actor's most salient social categories (see Kunda & Thagard, 1996, for a compendium on how stereotypes, traits, and behaviours affect each other's meanings). Marilynn Brewer's (1988) dual process model entails mutually exclusive representations and processes by means of a dichotomous sequence of processes. According to this model, one first automatically identifies a primitive category and after judging relevance and self-involvement, either categorization (under relevance and low self-involvement) or personalization (under relevance and high self-involvement) can occur. Brewer (1988) still posits that if the category does not fit, individuation occurs through subtypes or exemplars.

Although similar in some features, Susan Fiske and Steven Neuberg's (1990) continuum model states that one first engages in automatic category-based impressions (e.g., stereotypes) and only if the observer cannot interpret the actor's attributes to fit a category (either the initial one or subtypes subsequently constructed) will they incur in more individuating processes. This model accounts for higher levels of attention required in more attribute-oriented processes, and that motivation influences the progress along the impression formation continuum, such that observers can be pushed either toward the categorizing- or individuating-end. Categorization processes help us organize loads of information in our memory and since it requires less cognitive resources for an observer to use stereotypic information to make inferences about individuals, attribute-oriented processes appear to be elicited when the actor's attributes are interpreted as inconsistent with the category label (Fiske & Neuberg, 1990). For instance, a female financial provider and a male children's caretaker were much more likely to be viewed as homosexual (combined generated subcategory) than were category-congruent

actors (Deaux & Lewis, 1984). Fiske and Neuberg (1990) also reckoned that when observers use both category and attributes, different impression-formation processes could take place.

Ziva Kunda and Paul Thagard (1996) account for this simultaneous integration of several sources of information in their alternative parallel-constraint-satisfaction model of impression formation. Their theory is much like a network where traits, stereotypes and behaviours are represented as nodes interconnected through positive or negative associations, which can activate and deactivate each other. Sagar & Schofield's (1980) studies showed that besides the tendency to judge an ambiguous behaviour more negatively when it was performed by a black as compared to a white, behaviours influenced participants' ratings of the actors' personalities. According to Kunda and Thagard's (1996) model, seeing a white person pushing someone would activate both nodes *violent push* and *jovial shove*. However, seeing a black person pushing someone would not only activate those nodes as *black* would also activate *aggressive*, thus increasing activation of *violent push* because *aggressive* deactivates *jovial shove* and activates *violent push* (Kunda & Thagard, 1996). Likewise, when faced with ambiguous individuating information (e.g., *hit someone who was annoying him or her*), participants rated the construction worker as more aggressive than the housewife because the same behaviour was interpreted differently (i.e., *punched an adult* vs. *spanked a child*) and hence stereotypes affect the construal of the information (Kunda & Sherman-Williams, 1993). However, stereotypes tend to not affect trait ratings in the presence of diagnostic information of the trait (i.e., unambiguous behaviour), such that a construction worker and an accountant were judged as equally unaggressive after performing the same non-aggressive behaviour (e.g., *failing to react to an insult*), even though the construction worker was still viewed as more likely to engage in aggressive behaviours such as *punching* and *cursing* than the accountant (Kunda, Sinclair, & Griffin, 1997).

More recent evidence (Wigboldus, Dijksterhuis & van Knippenberg, 2003) has further questioned whether stereotypes associated with an actor (e.g., garbage-man) influence

spontaneous trait inferences related to the behaviour of that actor (e.g., *won a science quiz*).

Winning a science quiz implies the trait smart, however results showed that the actor's characterization as smart was inhibited because the trait was inconsistent with the stereotype (Wigboldus et al., 2003).

In contrast, counter-stereotypical information can lead to more extreme trait inferences. For example, black people are typically viewed as less academically competent than white people and so a black person with strong academic credentials would be perceived as even more competent than a white person with comparable credentials (Jackson, Sullivan, & Hodge, 1993). Although much of cognitive work required to integrate stereotypes and individuating information is carried out automatically, counter-stereotypical information can often trigger surprise (because it violates people's expectancies, Jackson et al., 1993) which in turn might trigger more controlled processes to explain the confusion. Take the previous example, one might reason that black people don't have the same opportunities as white people and so a successful black person would have to work harder and be better than a white person in order to achieve the same status. People might also consciously engage in more elaborate causal reasoning whether it is driven by motivation (e.g., when we want to know more about a given person; Fiske & Neuberg, 1990); or task-oriented (e.g., participants of a given study are asked to assess the causes of given behaviours).

Causal Attributions. Last stop of our introductory journey, the "correction box" (*why did that person do it?*). Causal attribution refers to the explanations people give to their own and other people's behaviours. Unlike the earlier models of attribution, which assumed that casual attribution preceded trait inferences, current models of attribution assume that following the initial automatic process of trait inference, people engage in more elaborate causal reasoning to assess whether the behaviour was caused by the actor's traits or by alternative factors, such as constraints imposed by the situation (Gilbert et al., 1988).

Heider (1958) believed that people are ‘naive psychologists’ trying to make sense of the social world around them and even tend to see cause and effect relationships where there are none. In his writings of interpersonal relations, Heider (1958) approached how power affected causal attributions. He acknowledged John Thibaut and Henry Riecken’s (1955) study where (in one of their experiments) participants had to persuade individuals with different perceived power (high vs. low) into performing prosocial act (e.g., *donate a pint of blood*). After that, participants answered which one of the individuals they thought to have forced and which one just wanted to do it anyway. Thibaut and Henry Riecken’s (1955) results showed that the high power person was perceived as having complied for internal reasons (e.g., *really wanted to help*), while the low power person was perceived as having complied for external reasons (e.g., *felt coerced to help*).

Heider (1958) also stated that attributions to behaviours most of the times resulted in distorted views as people were more prone to make internal attributions dictated by personal preferences, habits of thought, or needs. Michael Ross (1977; as cited in Miller, Smith & Uleman, 1981) later described this tendency to overestimate individual factors over situational ones as the *fundamental attribution error*. This bias could be a consequence of cultural beliefs, such as people being responsible and free to choose their own actions (Miller, Smith & Uleman, 1981). On the other hand, people believing their fate (i.e., their outcomes) depended solely on their individual qualities (i.e., dispositions) helped justify the status quo, regardless of the prevailing social conditions they lived in (Ichheiser, 1943).

As we have seen from Jones and Harris’ (1967) studies in the previous section, being aware of situational forces was not enough as people still made dispositional inferences despite those. This phenomenon was called *correspondence bias* and even 20 years later provided evidence for Gilbert et al.’s (1988) claim that correction was the least automatic process and more prone to disruption proposed by their person perception model. Using the *anxious woman paradigm* with cognitive overload (i.e., participants’ cognitive resources are usurped),

these authors argued that participants would only take situational information into account if they had cognitive resources available. Participants' task was to watch an interview of a woman answering questions asked by a stranger and later to assess how prone the woman was to exhibit the emotion shown on the interview. The video had no sound, but participants could see how the woman was feeling (i.e., anxious). Some participants thought the content of the interview was about smoothing topics and others thought it was about anxiety inducing topics. Half of the participants were instructed that in the end of the interview they would have to make judgments about the woman's personality (one-task condition) and the other half would also have to recall all the topics issued in the interview (two-task condition). Gilbert et al. (1988) results showed that even when participants had more access to situational information (i.e., two-task condition participants who memorized the topics), that was not enough to "see past" the woman's nervousness presumably because they had less cognitive resources available to correct the correspondent inference (i.e., a nervous personality is inferred from a nervous behaviour).

These findings suggest that correspondence bias can be seen as the failure to apply an inferential correction to the initial dispositional perceptions that perceivers cannot help but draw (Gilbert et al., 1988). These authors' claims that early stages of perception (categorization and characterization) occur automatically and correction judgements require more consciousness and cognitive resources were also in line with Smith and Miller's (1983) results on the reaction times of participants' judgements, such that participants took longer to make attribution than trait judgements, suggesting that the latter are cognitively less demanding.

Meanwhile, while observers were inclined to attribute actors' behaviour to dispositional qualities (e.g., *you hit someone because you are aggressive*), Jones and Nisbett (1971; as cited in Nisbett, Caputo, Legant, & Marecek, 1973) proposed that actors performing the same behaviour would be inclined to attribute it to situational causes (e.g., *I hit someone because of*

something they did). Nisbett and collaborators (1973) corroborated this *actor-observer bias* by asking participants about their choices on girlfriend and college major, as well as their best friend's choices. Results showed that observers used dispositional qualities of their best friend to describe their best friend's choices, while actors used properties of the girlfriend and the college major to describe their own choices. In line with other attribution theorists, Nisbett and collaborators (1973), argued that the more predictable the behaviour of others, the more we can perceive the social environment to be stable, understandable and thus controllable.

Interestingly, Storms (1973) showed that this attributional bias can be reversed when both actor and observer visual perspectives are shifted. That is, when actors are shown videotapes focusing on their own behaviour, they attribute their behaviour to dispositional causes more than observers who are shown videotapes focusing on the actor's situation. These results support the idea that causal inferences are guided by one's perspective (Jones & Nisbett, 1971).

Up to this moment, I have mostly stressed how observers make inferences upon actors' behaviours without much information on prior actions. Indeed, a great deal of our social interactions are with people we already know and about whom we already have a lot of stored information on the way they typically behave. Building on Heider's (1958) views, in 1967, Harold Kelley's work led researchers to adopt a different terminology, namely causes could be personal or situational (see Malle, 2008, for a detailed review on this topic). Kelley (1973) suggested that there are three causal factors which enable us to understand other's behaviours by combining their effects when the behaviour occurs (i.e., figuring out whether or not the factors are present): *persons* (e.g., the actor who performs the behaviour); *stimuli* (e.g., something or someone with whom the person interacts with); and *times* (e.g., prior occasions where the same behaviour also took place).

Let us consider the following behaviour: *Peter stumbled over Rose while dancing in a ball* (example translated from Garcia-Marques, 1988). Possible reasons for such an event might be already popping in the reader's mind, for example: *Peter is sloppy*, *Rose is a bad dancer*, or

someone bumped into them). Kelley's approach to knowing if our perceptions of the world are valid implied having information on prior multiple behaviours. Thereby, the attribution to *Peter stumbling on Rose while dancing in the ball* depends on whether *Peter had stumbled over other women while dancing (distinctiveness)*, whether *other men had also stumbled over Rose while dancing (consensus)*, and whether *Peter had stumbled over Rose while dancing in other occasions (consistency)*. With this in mind, Kelley's (1973) model allows us to make certain attributions as from certain patterns of information. Say that Peter has frequently stumbled over Rose while dancing in past occasions, but he did not stumble over other women while dancing with them in the present ball, and other man who danced with Rose in that ball stumbled over her while dancing. We can then reckon that Rose was responsible for the event. Poor Peter, who was probably misjudged by people watching them dance in the ball who were not aware of Rose's dancing "skills". According to Kelley's model (1973), this pattern of information corresponds to high distinctiveness (i.e., the person's response to other stimuli on a given occasion), high consensus (i.e., other people's response to the same stimulus on a given occasion), and high consistency (i.e., the person's response to the stimulus on different occasions).

While some researchers embarked and navigated through unknown territory of perception and judgments of causality, trying to make sense of the "why", Bernard Weiner (1972) was starting to breed causal attributions on the educational setting. His findings on achievement striving revealed that individuals low in achievement tend to attribute failure to a lack of ability, whereas those high in achievement tend to attribute success to high ability and effort (Weiner, 1972). This was in line with Feather and Simon (1971) results showing that expectations played a role in causal inferences, such that an unexpected outcome, whether a success or a failure, is more likely to be attributed to external factors than an expected outcome. Similarly, Deaux and Emswiller (1974) later provided evidence that stereotypes also affected causal attributions, as a behaviour consistent with the stereotype was more likely to be

viewed as internal than when inconsistent (e.g., the same successful performance on a masculine task was more attributed to skill when performed by a man, whereas more attributed to luck when performed by a woman).

Weiner (1972) was also interested in the effects of attributions on rewards and punishments administered by teachers. He conducted a series of studies (Weiner & Kukla, 1970, cited in Weiner, 1972) showing that, among other results: students perceived as *low in ability* and *high in effort* received more positive feedback than students perceived as *high in ability* and *high in effort*; and students perceived to be *low in ability* and *low in effort* received more positive feedback than students perceived as *high in ability* and *low in effort*. A few years later, Weiner (1979) proposed a theory of motivation based upon causal attributions to success and failure where he introduced three central causal dimensions. Building mostly on Heider's (1958) work, he coined the terms *locus of causality* which is related to the cause being something about the actor (internal) versus something outside the actor (external), *stability* which relates to the cause being constant over time (stable) versus variable across time (unstable), and *control* which is related to the cause being or not being changed or affected by someone (controllable vs. uncontrollable).

However, traditional approaches to assessing causal dimensions were flawed since there was no guarantee that the researchers perceived causes in the same way as participants (Russell, 1982). Hereupon, Russel (1982) developed the Causal Dimension Scale in order to address the variations in the perception of causes that the typical attribution paradigm did not account for, as well as to test its validity and reliability. Although this scale proved to be a big step towards an accurate measure of causal dimensions, it still had some issues in need of improvement (McAuley, Duncan, & Russell, 1992). A decade later, McAuley and collaborators (1992) aimed to revise the scale, particularly to reduce the psychometric issues related to the controllability dimension, and thus developed the revised Causal Dimension

Scale (Causal Dimension Scale II), which proved to be a reliable and valid measure of causal dimensions across diverse domains (McAuley et al., 1992).

Children

As we've come to realize by now, people infer traits about others from several cues, such as their physical appearance, the social groups they belong to, and their behaviours. However, the vast majority of investigation in social psychology, person perception and causal attribution fields has focused on studying adults as observers and actors. As we have seen from some of the findings I reviewed, there are several social groups widely studied, such as Blacks and Whites, men and women, occupational categories (e.g., accountants and housewives), however there seems to be a gap in social psychology research regarding children as a targeted social group. Although there is growing investigation on developmental psychology and educational fields on how inferential and attributional processes take place and evolve throughout a person's development, more research on how other social groups perceive children and their behaviours and intentions would prove to be valuable to the increasing recognition of children as social agents. Live statistics on world population ("Worldometers", n.d.) reveal that children (0-14 years) account for 25.5% of the world's population (18.4% in United States of America; 16.6% in the European Union; and 13.5% in Portugal).

Nonetheless, there is some evidence on how children as a social group are perceived. In social psychology, there are two widely consensual dimensions which enable us to map and form impressions of other people: *warmth* (e.g., trustworthy and sociable) and *competence* (e.g., capable and agentic). The *stereotype content model* (see Fiske et al., 2002, for the whole model's explanation) places children as a social group high on warmth and low on competence (Fiske, 2018). This means that children are perceived as a social group with positive characteristics (e.g., warmth). On the other hand, negative characteristics are also attributed to them in terms of competence, which is natural since many of human beings' abilities are still in

development in children. Moreover, results using the Implicit Association Test paradigm (Senese et al., 2013) showed that human infant faces were (more than adult faces) associated with positive emotions (e.g., love, joy, beautiful, happy, pleasant, smile). Research on neuroscience has also demonstrated that people show a preferential response to infant faces at early stages of processing as opposed to adult faces (Han et al., 2015).

In the previous subsections, we have come to know more about inferential processes elicited by behaviours, as I reviewed some of the literature on (1) interpretation of behaviours, (2) trait inferences from behaviours, and (3) causal attributions to behaviours. What we do not know is if people interpret children's behaviours in a different way from that of adults. It is reasonable to assume that children's stereotypes (e.g., high warmth and low competence) influence behaviours' interpretation, particularly if these are ambiguous. We did not find any studies addressing this. One behaviour unambiguous (e.g., *remove the wings of a fly*, or *tidy up the bedroom*) when performed by an adult (seen as *cruel*, or *tidy*), might be ambiguous when performed by a child (e.g., *cruel* vs. *curious*, or *tidy* vs. *obedient*). That is, behaviours pre-tested with young adults. Moreover, we do not know if trait inferences from children's behaviours are different from that of adults'. In a previous study from our lab, concerning deliberate trait inferences, Santos (2018) found: (1) less intense trait inferences for child actors than for adult actors; (2) for adults, trait inferences were independent of whether the traits were stereotypical of adults (e.g., *boring*) or children (e.g., *curious*); and (3) for children, trait inferences were higher for positive child-stereotypical traits than for negative adult-stereotypical traits (Santos, 2018).

Lastly, we also do not know if people attribute different causes to children's behaviours than to that of adults'. Regarding attribution, research on parent-child interaction suggests that, when assessing their children, parents focus on the analysis of the causes of their immediate behaviours, particularly whether they are caused by the child's personality (Dix, Ruble, Grusec, & Nixon, 1986). Based on Jones and Davis' (1965) correspondent inference theory,

Dix and colleagues (1986) suggest that this causal analysis is guided by an assessment of intentionality, in which parents assess the child's motivation to perform the behaviour (i.e., if the child desired the effects of the behaviour), as well as their control over the behaviour's effects. That is, if the child understood the consequences of the behaviour, had the ability to deliberately produce the behaviour's effects, and had no external pressures, then parents would infer that their children's behaviour was intentional (Dix et al., 1986). Thus, believing that the behaviour was intended would lead to dispositional inferences (e.g., the child's personality) as being the cause of that behaviour. However, if the above mentioned conditions were not met and the behaviour was seen as unintended, it would be thought of as having been constrained by developmental or situational constraints.

One must not forget that social interaction entails cause-effect relations, thus causal inferences about children's behaviour guide reactions that have significance for socialization (Dix et al., 1986), particularly in learning environments (as we have seen from Weiner, 1972). For this reason, as well, more research on person perception encompassing children would provide more knowledge especially useful for those who engage in everyday contact with children (e.g., parents and teachers).

The Current Research

Since our research lab is interested in how children as a unique social group are perceived, and given previous studies on whether people infer different traits from the same behaviour if performed by people belonging to different social categories, we aimed to investigate whether there are differences in the way people perceive the same behaviour performed by an adult and a child. Our studies entailed descriptions of behaviours implicative of traits (trait-implicating behaviours) performed by different actors, and the actors' age was manipulated using facial photographs of adults and children. A great deal of research in cognitive psychology and neuroscience has explored the processes of perceiving social stimulus such as sex, age, and

race by demonstrating the utility of integrating vision and face perception into person perception research, by allowing the latter to reflect the kinds of implicit and spontaneous perceptual inferences which occur in everyday social interaction (Brooks & Freeman, 2018). Thus, facial cues provide information, such as *young* or *old*, which can bias impressions of one's personality and behaviours through the stereotypes of the group they belong to (Brooks & Freeman, 2018).

In Study 1, we were particularly interested in finding out if there would be differences in the interpretation and categorization of the same behaviour (e.g., *prepared the backpack for the day after*) performed by a child or an adult. For instance, people use different trait words to describe the same behaviour (e.g., *organized* when performed by an adult vs. *obedient* when performed by a child), or would they do not even use trait words to describe the same behaviour (e.g., participants would describe a child's behaviour as being *normal/surprising* or *good/bad*).

Moreover, in our lab's Previous Study, there were differences in participants' trait ratings between the same behaviours performed by adults and children. Given this, we were also interested in finding out if participants were adjusting their inferences in a different way or attributing different causes to the behaviours depending on the actor being a child or an adult. Looking at Thibaut and Riecken's (1955) results on a high power person being perceived as having complied for internal reasons, whereas a low power person is perceived as having complied for external reasons, and given that children are perceived as less agentic (Fiske, 2018) than adults in general, we assume that when the actor is a child (perceived low power) the cause would less likely be in the person. Hence, in Study 2, a different set of participants had to assess the likelihood of different causes concerning the actors' behaviours (inspired by Kelley's classification).

In addition, Dix and colleagues' (1986) results on parents' assessments of their children's behaviours revealed that those assessments were rather connected with their children's

development level, such that the more developed a child was, the higher the attribution to personality dispositions and intentionality. With development, children's behaviour is seen as more stable, controllable and move from external to internal causation (Dix et al., 1986). Since adults are more developed than children, following Weiner's dimensions, in Study 2 we wanted to test the hypothesis that when the actor is a child, participants would consider the causes of the behaviours to be less internal, less stable, and less controllable (particularly for adult-stereotypical trait-implicating behaviours). The same set of participants of Study 2 also had to assess the likelihood of causes concerning the actors' behaviour using Russell's (1982) Causal Dimension Scale.

Although it is not a part of the current research, we have also decided to include the Previous Study (mentioned in the subsection *Children*; Santos, 2018) in this subsection, not only because its results motivated the present investigation goals, but mainly because the paradigms and materials used were the same as those used in the present studies.

Previous Study. The booster study of this dissertation aimed to investigate whether there were differences between the way people infer personality traits of children and adults when looking at the same behaviour. Therefore, participants saw sentences describing behaviours that people supposedly performed (e.g., *to pet a dog while it was waiting for its owner*), each accompanied by a photograph of the person who performed it. Their task was to rate in an 11-point rating scale how much they thought that person had a certain personality trait (e.g., *caring*; see Figure 1). The trait-implicating behaviours were pre-tested in order to imply the correspondent trait, as well as to be plausible of being performed by either a child or an adult. From a list of initial traits considered stereotypical of adults or stereotypical of children, a set of participants were asked to create behaviours implicative of those, and afterwards a new set of participants were asked to generate traits from those behaviours (see Santos, 2018). Note

that, for some behaviours, two traits were equally generated and so if the traits were close synonyms, that behaviour would be used since there were not many options.

The implied traits varied on stereotypicality and valence (e.g., positive and negative child-stereotypical traits: *curious* and *irresponsible*; positive and negative adult-stereotypical traits: *organized* and *lonely*). The same materials (behaviour and trait) could be paired with the picture of a boy, a girl, a man, or a woman.

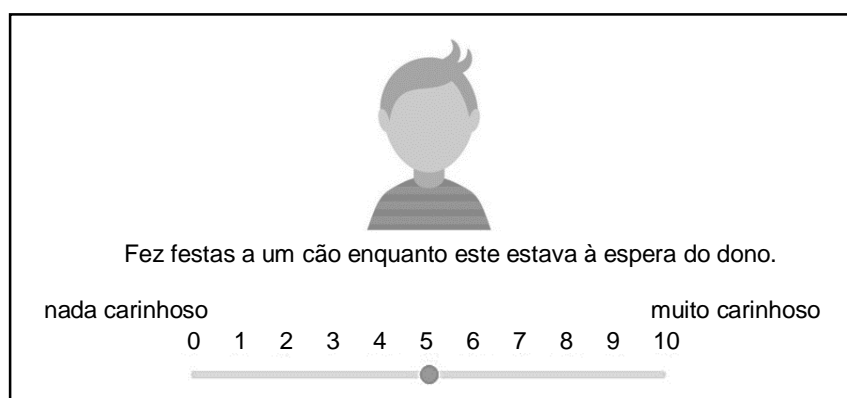


Figure 1. Previous Study's example trial in Portuguese (condition: child actor, positive child-stereotypical trait: *caring*). A photo of a real child/adult appeared instead of the avatar (taken from Freepik.com).

In this study, there was a statistically significant main effect of actor (child vs. adult), such that adult actors led to higher trait ratings than child actors did. There was also a marginally significant triple interaction between actor, trait valence (positive vs. negative), and trait stereotypicality (stereotypical of child vs. stereotypical of adult), trait stereotypicality and valence did not influence trait ratings when the actor was an adult, however, when the actor was a child, trait ratings were higher for positive than negative traits, particularly when traits were stereotypical of children.

Study 1

Study 1 aimed to investigate, whether people categorize or interpret the same behaviour performed by children or adults in a different way. We are particularly interested in adult-

stereotypical trait-implying behaviours, as these were where the Previous Study found most differences in trait inference. For instance, to which extent a behaviour implicative of an adult-stereotypical trait (e.g., *organized*) would be less interpreted as the trait it implies when the actor is a child (e.g., *obedient*), or to which extent those behaviours would be categorized with more non-trait words when the actor is a child (e.g., *surprising*, *childish*). If these were the case, then trait inferences would be different between adult and child actors, hence providing a possible explanation for the Previous Study's results.

Method

Participants. Eighty-four people ($M_{\text{age}} = 23.58$ years, $SD = 6.10$, 63 female) participated in the present study, which took place in the Faculty of Psychology of the University of Lisbon (FPUL), by completing a questionnaire developed through *Qualtrics* platform in a session with other lab studies. Some of the participants were psychology undergrads ($n = 23$) and hence participated in exchange of course credits, while others were volunteers from other fields of study ($n = 61$) or unemployed ($n = 3$), enrolled in the FPUL's participants pool who participated in exchange of a voucher. Seventy-six participants were Portuguese, and eighty participants had Portuguese language as their first language. On average, participants reported having occasional contact with children ($Mdn = 3$) and two of them had kids.

Procedure. Participants learned that they were about to read on the computer screen a set of behaviours' descriptions performed by people, and that each was associated with a photo of the person who did it. Their task was to describe each behaviour in a word or two.

Participants then saw a total of 24 trials with sentences describing trait-implying behaviours stereotypical of children and stereotypical of adults, as well as positive and negative, and half were paired with adult photos (man or woman), whereas the other half were paired with child photos (boy or girl; see Figure 2 for a trial example). Participants were randomly assigned to

one of 4 versions of the same material (see next subsection *Materials*) Each participant only saw the same actor-behaviour pair once (see Figure 2 for an example).

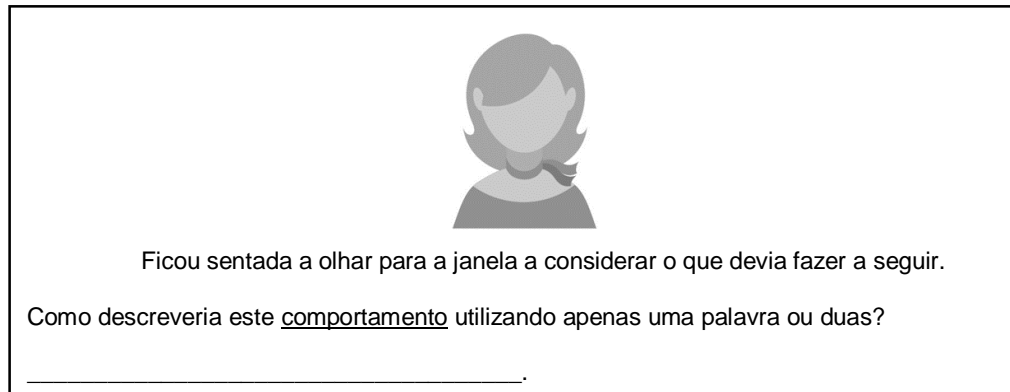


Figure 2. Stimulus example from Study 1 in Portuguese (condition: woman, positive adult-stereotypical trait: *thoughtful*). A photo of a real child/adult appeared instead of the avatar (taken from Freepik.com).

Before ending the experiment, participants answered some questions concerning their contact with children, in which they rated: (1) in broader terms, how much they liked children, as well as how much they liked adults, on two separate 7-point scales from 1 (*really dislike children; really dislike adults*) to 7 (*really like children; really like adults*); (2) which sentence regarding children, as well as which sentence regarding adults, best applied to them, on two separate 7-point scales from 1 (*I associate children to extremely negative things; I associate adults to extremely negative things*) to 7 (*I associate children to extremely positive things; I associate adults to extremely positive things*); and (3) how often they got in contact with children, on a 5-point scale ranging from 1 (*very rare*) to 5 (*very frequent*). Moreover, we collected participants' level of contact with children by asking them to pick from a given list every relationship bond they had with children (*sons and daughters; siblings; cousins; nieces and nephews; pupils; children with whom I work with; neighbours; other. Which?*). Lastly, we also collected sociodemographic data (age, gender, occupation, first language, and nationality).

Materials. We used the same trait-implying behaviours as in the Previous Study. From a total of 24 behaviours, 12 of them implied child-stereotypical traits and the other 12 implied adult-stereotypical traits. Half of the stereotypical traits were positive and the other half were negative (equally distributed; see Appendix A for the whole stimuli pool). Four versions of the material were created to ensure that the same behaviour was paired with actors of both age groups (adults and children) and gender (men and women; boy and girl). The adults' photographs used were obtained from the Stills And Videos of facial Expressions database (SAVE; Garrido et al., 2017), and the Karolinska Directed Emotional Faces database (KDEF; Goeleven, De Raedt, Leyman, & Verschuere, 2008), and the children's photos were retrieved from the Child Affective Facial Expression database (CAFE; LoBue & Thrasher, 2015) and the Internet. All the photos were front facial portraits pre-tested to be Portuguese-looking, edited to match size, greyscale, and empty background. All the photos pertained smiling facial expressions since it proved hard to find neutral Portuguese-looking children faces, and in previous studies from our lab participants found neutral children faces somewhat odd. Study 1's design was a 2 (actor: child vs. adult) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) x 2 (trait valence: positive vs. negative) with all the factors varying within participants.

Results and Discussion

We examined the qualitative data for each type of trait (i.e., positive child-stereotypical traits, negative child-stereotypical traits, positive adult-stereotypical traits, and negative adult-stereotypical traits) and actor (i.e., child vs. adult) by looking at the explicit meaning of participants' answers at a semantic level. For both adult and child actors, we coded the participants' responses using four categories of response: *expected trait* (the word used in the Previous Study as the trait implied by the behaviour), *related trait* (a synonym word of the expected trait), *other trait* (a trait word that is not strictly synonymous to the expected trait),

and *non-trait* (responses that weren't coded in other categories; see Appendices B and C for the whole pool of participants' answers for adult- and child-stereotypical trait-implying behaviours, respectively).

Since we wanted to explore how people categorize and interpret the same behaviour performed by a child and an adult, particularly to what extent they would infer different traits from the same behaviour depending on the actor being a child or an adult, we statistically compared the proportions of participants' expected trait answers (and non-trait answers) when the actor was an adult and when the actor was a child. For brevity sake, the z-statistics of the comparisons will not be reported in the text, only the percentages and the respective *p*-value (see Appendices D1 and D2 for percentages and *p*-values of expected traits and non-traits, respectively, for each trait-implying behaviour).

Expected trait descriptions. From Study 1, we registered a total of 1063 answers for child actors, and 1055 answers for adult actors. Globally, there were more expected trait responses when the actor was an adult than when the actor was a child, $p = .006$, (see Table 1; see also Appendix D1 for values on each trait-implying behaviour). This points in the direction that participants categorized to some extent the same behaviours performed by children and adults differently.

Table 1.

Categories of participants' descriptions of the trait-implying behaviours performed by a child or an adult actor

	Child		Adult	
	n	%	n	%
Trait words	847	80%	903	86%
Expected	355	33%	413	39%
Related	123	12%	141	13%
Other	369	35%	349	33%
Non-trait words	216	20%	152	14%

However, for positive traits (whether stereotypical of children or stereotypical of adults) these differences were not significant, whereas for negative traits, there was a tendency for the same behaviour to be categorized with the expected trait more frequently when the actor was an adult than when the actor was a child, as we can statistically see by the marginal p -values in Table 2.

Table 2.

Differences in expected trait responses for each type of trait-implying behaviours when the actor is a child and an adult

Type	Child	Adult	p -value
Positive child-stereotypical	35%	38%	.481
Negative child-stereotypical	46%	54%	.067
Positive adult-stereotypical	24%	29%	.175
Negative adult-stereotypical	28%	34%	.089

I will present each type of trait results' in detail, since their distinction is of our interest, even though only the overall effect had statistical significance. I will start with child-stereotypical trait-implying behaviours' results and then move on to adult-stereotypical ones.

Positive child-stereotypical traits. Although in this type of behaviours there was no significant difference in expected trait responses between adult and child actors, there were two behaviours that elicited statistically significant differences. Their effects were cancelled out because the differences were in opposite directions. Participants' descriptions of the behaviour which implied the trait *curious* (i.e., *wanted to know everything about that topic*) when the actor was a child (60%) had more expected trait answers than participants' descriptions of that behaviour when the actor was an adult (30%), $p = .005$. Actually, it is not surprising that a

positive stereotypical trait of children is more used to describe a child's behaviour as opposed to the same behaviour performed by an adult. Nonetheless one should note that for adult actors, the most used trait-word was *interested* (coded as a related trait; see Table C1).

Actually, this was one of those behaviours to which participants generated two traits in the pre-test (with the trait *curious*, 57%, being more used than *interested*, 23%; see Santos, 2018).

Nonetheless, it is interesting that in our sample, participants' descriptions as *interested* when the actor was an adult (34%) were higher than when the actor was a child (17%). These results suggest that although similar in conceptual meaning, for some reason participants seem to interpret the behaviour more in terms of curiosity when performed by a child and more in terms of having an interest when performed by an adult. Since adults are more developed than children, is being interested perceived as requiring more intellectual skills than being curious?

Moreover, participants' descriptions of the behaviour which implied the positive trait *caring* (i.e., *petted the dog while it was waiting for its owner*) when the actor was an adult (35%) had more expected trait responses than participants' descriptions of that behaviour when the actor was a child (10%), $p = .005$. However, one should note that for child actors, the most used trait was *dear* (13%; see Table C2), and participants' descriptions for adult actors as *dear* were non-existent. Nonetheless, as these traits are close synonyms, I reckon this differences are not substantial.

In addition, there was a child-stereotypical trait-implying behaviour (i.e., *wrote a fantasy story with surprising details*) whose first trait did not correspond to the expected trait for neither adult or child actors. Instead of *imaginative*, participants used the word *creative* to describe the behaviour performed by adults (44%) as well as children (40%; see Table C3). Given this similarity between adult and child actors, I reckon that participants might have been more inclined to use the word *creative* than *imaginative* to describe this particular behaviour, but this has no further implications since they can be considered synonyms. Note that in pre-

test, participants also used the trait creative, 77%, more than imaginative, 53%; see Santos, 2018).

Negative child-stereotypical traits. As we have seen in Table 2, there was a tendency for the same behaviour to be categorized with the expected trait more frequently when the actor was an adult than when the actor was a child. This tendency was more salient for the behaviour implicative of the trait *unpredictable*. Participants' descriptions of this behaviour (i.e., *had a mood swing and was impossible to know what s/he would do next*) tended to have more expected trait responses when the actor was an adult (38%) than when the actor was a child (21%), $p = .083$. One should note that participants used the word *bipolar* to describe this behaviour when performed by a child as much as they used the expected trait (see Table C4), but not when the actor was an adult (14%).

For information on other child-stereotypical trait-implying behaviours not mentioned, please see Appendix D1, as well as Tables C5 to C12 for participants' descriptions of those behaviours.

I will now present our findings regarding adult-stereotypical trait-implying behaviours, in which we were particularly interested since the Previous Study's results showed that the major differences between trait inferences for adult and child actors were concentrated in this type of traits.

Positive adult-stereotypical traits. Although in this type of behaviours there was no significant difference in expected trait responses between adult and child actors (as we have seen in Table 2), there was one of them which was statistically significant. Participants' descriptions of the behaviour which implied the trait *experienced* (i.e., *as s/he had been through several similar situations before, s/he knew what to do right away*) when the actor was an adult had more expected trait answers (36%) than participants' descriptions of that behaviour when the actor was a child (16%), $p = .035$. This result has probably to do with the

fact that adults have lived more than children and hence have more life experience. Still, the expected trait was the most used to describe the behaviours for both actors.

Negative adult-stereotypical traits. The tendency for the same behaviour to be categorized with the expected trait more frequently when the actor was an adult than when the actor was a child was more salient for two trait-implying behaviours. Participants' descriptions of the behaviour implicative of the trait *boring* (i.e., *took half an hour to tell a story not at all funny and which s/he had already told*) had more expected trait responses when the actor was an adult (18%) than when the actor was a child (4%), $p = .037$. Actually, when the actor was a child, the most used word to describe the behaviour was not the expected trait, but rather the word "chato" (13%; coded as a related-trait), which was also the second most used trait to describe the behaviour when the actor was an adult (16%). One should note that in pre-test, both traits were equally generated (37% for boring and 33% for "chato"; see Santos, 2018), however, since in Portuguese "chato" can either mean *boring* or *annoying*, the interpretation for this behaviour's descriptions is hampered because we do not really know in which meaning participants were thinking of.

Furthermore, participants' descriptions of the behaviour that implied the negative trait *stingy* (i.e., *said that gifts are a waste of money*) tended to have more expected trait answers when the actor was an adult (31%) than when the actor was a child (15%), $p = .071$. One could argue that normally, children do not own money to decide where to better spend it, so it is not surprising that participants did not interpret the behaviour as stingy when the actor was a child as much as when the actor was an adult.

There were other adult-stereotypical trait-implying behaviours whose first trait did not correspond to the expected trait, such as: *hard-worker*, *ambitious*, and *materialistic*.

Participants used the word *perfectionist* to describe the behaviour performed by both adult (41%) and child (42%) actors more frequently than *hard-working* (see Table B4). This is not surprising since in pre-test, *perfectionist* (40%) and *hard-worker* (40%) were equally generated

(see Santos, 2018). Participants used the word *competitive* for both adult (30%) and child (40%) actors more frequently than *ambitious* (see Table B5). Again, in pre-test, *competitive* (43%) and *ambitious* (40%) were equally generated. Lastly, participants used the word *futile* for both adult (16%) and child (13%) actors more frequently than *materialistic* (see Table B6). In pre-test, *materialistic* (19%) and *futile* (16%) were equally generated.

For information on other adult- stereotypical trait-implying behaviours not mentioned, please see Appendix D1, as well as Tables B7 to B12 for participants' descriptions of those behaviours.

Non-trait descriptions. May I remind the reader that we were also interested in finding out to what extent participants would categorize behaviours with less trait-words when the actor is a child (e.g., using more non-trait words). For this reason, in this category, we integrated participants' answers which did not pertain traits. We thus included all names (as opposed to adjectives), although some of these were morphologically related with the trait word (e.g., *distraction* and *distracted*). However, we considered that describing a behaviour as a distraction (which can happen to everyone at any given point) is not the same as describing it as distracted (where the word per se can be applied to either the behaviour or the actor). In addition to names, we also included verbs, expressions, and some adjectives. Although some of these adjectives could be considered trait words, we reckoned that they were used mainly to qualify the behaviour as opposed to describe it (e.g., *good*, *bad*, *adequate*, *inadequate*, *childish*, *mature*, and *normal*).

Globally, there were more non-trait responses when the actor was a child than when the actor was an adult, $p = < .001$, (see Table 1). However, following the same pattern as the expected trait results, for positive traits (whether stereotypical of children or stereotypical of adults) these differences were not significant, whereas for negative traits (either stereotypical of adults or stereotypical of children), the same behaviour was categorized with a non-trait

more frequently when the actor was a child than when the actor was an adult, as we can statistically see by the significant p -values in Table 3.

Table 3.

Differences in non-trait responses for each type of trait-implying behaviours when the actor is a child and an adult

Type	Child	Adult	p -value
Positive child-stereotypical	17%	14%	.391
Negative child-stereotypical	25%	15%	.002
Positive adult-stereotypical	15%	13%	.436
Negative adult-stereotypical	24%	16%	.022

Similarly to the presentation of the expected trait results, I will start by reporting our findings regarding child-stereotypical trait-implying behaviours and then move on to adult-stereotypical ones.

Positive child-stereotypical traits. Although in this type of behaviours there was no significant difference in non-trait responses between adult and child actors, there was one behaviour in particular which proved statistically significant. Participants' descriptions of the behaviour which implied the trait *curious* (i.e., *wanted to know everything about that topic*) when the actor was a child (19%) had more non-trait answers than participants' descriptions of that behaviour when the actor was an adult (6%), $p = .007$. In addition, the same behaviour was described in a positive way, regardless of the age of the actor. That is, participants used non-trait words such as *good* and *thirst for learning* when the behaviour was performed by a child, as well as *admirable* and *very positive* when the behaviour was performed by an adult (see Table B1).

Negative child-stereotypical traits. As we have seen in Table 2, for these traits, the same behaviour was categorized with a non-trait more frequently when the actor was a child than

when the actor was an adult, in particular for two trait-implying behaviours. Participants' descriptions of the behaviour which implied the trait *susceptible* (i.e., *since s/he met that new friend, s/he started to behave in a bad way which did not happen before*) had more non-trait responses when the actor was a child (51%) than participants' descriptions of that behaviour when the actor was an adult (23%), $p = .006$. Interestingly, participants' descriptions of this behaviour when performed by an adult seem to have a more negative character (e.g., *wrong*, *harmful*, and *immature*), while participants' descriptions of this behaviour when performed by a child seem to connote less intention in the actor's action (e.g., *mirror behaviour*, *social pressure*, and *typical of children*; see Table C5).

Besides this trait-implying behaviour, participants' descriptions of the behaviour implicative of the trait *unpredictable* (i.e., *had a mood swing and was impossible to know what s/he would do next*) had more non-trait responses when the actor was a child (28%) than participants' descriptions of that behaviour when the actor was an adult (5%), $p = .004$. Interestingly, participants used non-trait words such as *tantrum* and *with no self-control* to describe the behaviour when performed by a child (see Table C4). Moreover, if the reader recalls, there were also marginal differences in the expected trait answers to this behaviour depending on the age of the actor, with a tendency for expected trait responses to be more frequent when the behaviour was performed by an adult. The fact that participants used more expected trait words to describe the behaviour when the actor was an adult, and more non-trait words to describe the behaviour when the actor was a child is in line with models reviewed in the introductory section, which state that the way the behaviour is categorized will facilitate the characterization of the actor (Trope, 1986; Gilbert et al., 1988).

Positive adult-stereotypical traits. For this type of behaviours, we did not find statistically significant differences in the categorization with non-trait words for any of the behaviours. Note that expected trait results for this type of traits showed that there were differences regarding the behaviour implicative of the trait *experienced*. These findings suggest that the

difference may be due to answers pertaining related-trait words or other-trait words. Actually, for this behaviour, there seems to have been more other-trait responses when the actor was a child (61%) than when the actor was an adult (45%; see Appendix E). In addition, while the second two most used words to describe the child actors' behaviour were *intelligent* (14%) and *smart* (11%), these same words (which we coded as other-trait) were only used once each to describe the adult actors' behaviours (2%; see Table B1). One should also note that although non-significant, non-trait descriptions between adult and child actors for this behaviour were qualitatively different as participants used words such as *grown* and *very positive* to describe the behaviour when performed by a child, as opposed to words such as *routine* and *standardized* when it was performed by an adult (see Table B1). Together, these results indicate that even though participants did not interpret the behaviour as *experienced* when performed by a child, they still valued it (maybe even more than they valued it when performed by an adult).

Negative adult-stereotypical traits. Non-trait words for these behaviours were more frequently used to categorize the behaviours when the actor was a child than when the actor was an adult (as we have seen in Table 2), in particular for the behaviour implicative of the trait *boring*. Participants' descriptions of this behaviour (i.e., *took half an hour to tell a story not at all funny and which s/he had already told*) had more non-trait responses when the actor was a child (30%) than participants' descriptions of this behaviour when the actor was an adult (9%), $p = .012$. The fact that participants used more expected trait words to describe the behaviour when the actor was an adult, and more non-trait words to describe the behaviour when the actor was a child is once more in line with the assumption that the way behaviours are categorized facilitates the characterization of the actor (Trope, 1986; Gilbert et al., 1988).

Interestingly, participants' non-trait words used to describe negative trait-implicating behaviours in general (regardless of being stereotypical of adults or stereotypical of children), entail words such as *typical of a child*, *kids' play*, *child*, and *clueless*, when the actors were

children, but not when the actors were adults. This suggests that children's negative behaviours are less criticized and seem to be perceived as less intentional and lacking in awareness.

Contact with children. Besides sociodemographic data, we also collected data on how much participants liked children and adults (in broader terms), as well as of the extent to which they associated positive or negative things to these two groups. Regarding how much participants reported to like children, as well as adults, a *t*-test for dependent samples revealed a slight preference for children ($M = 5.49$, 95% CI = [5.17, 5.80]) over adults ($M = 4.95$, 95% CI = [4.69, 5.22]), $t(83) = 3.38$, $p = .001$, $d_{\text{unbiased}} = 0.40$. Regarding the association of children versus adults with positive or negative things, a *t*-test for dependent samples revealed more positive associations with children than adults, $t(83) = 9.01$, $p < .001$, $d_{\text{unbiased}} = 0.98$, as participants associated children with more positive things ($M = 5.49$, 95% CI = [5.17, 5.80]), and associated adults with things equally negative and positive ($M = 4.11$, 95% CI = [3.82, 4.39]). These results are in line with previous studies which report that children are perceived in a more positive way than adults (Han et al., 2015; Senese et al., 2013).

Furthermore, along with the expected-trait and non-trait results reported, I reckon that these data, together, support the assumption that behaviours performed by children, particularly when negative (whether stereotypical of adults or stereotypical of children) were less criticized or more excused than the same behaviours performed by adults. The fact that those behaviours seem to be “forgiven” is in line with the assumption that children are yet to develop necessary resources to be able to distinguish good from bad, or to have self-control (e.g., control over their emotions or actions). Even if young children are perceived to be responsible for their actions, do people perceive them to not be fully accountable for their “wrong-doing” because they are yet to develop the necessary tools to understand the scope of their actions’ consequences?

Study 2

Although in Study 1 we found differences in the categorization of trait-implying behaviours, these differences do not entirely overlap to the differences found in trait inferences in the Previous Study. For instance, while differences in categorization fell on negative trait-implying behaviours, differences in characterization fell on adult-stereotypical trait-implying behaviours. Since processes of person perception also encompass causal attributions, we were interested in finding out to what extent participants could also be engaging in a more causal reasoning, particularly whether people make different causal attributions to the same behaviour when performed by a child or an adult.

Study 2 aimed to collect evidence on these attributions by asking participants how probable each of the three types of causes were (adapted from Kelley, 1973): the person; the stimuli - which we decided to call *entity* because it seems more specific and related to the interaction with the actor rather than surrounding stimuli in general; and the time - which we decided to call *circumstance* because our paradigm only allows for one behaviour “observation” for each actor. We expected to find similar results to those of the Previous Study regarding trait inference, such that trait-implying behaviours congruent with the actor’s stereotype would lead to higher attributions to the person. Namely, for adult-stereotypical trait-implying behaviours (either positive or negative), attributions to the person would be higher when the actor was an adult than when the actor was a child, and participants would attribute positive child-stereotypical trait-implying behaviours more to the person when the actor is a child than when the actor is an adult. Participants also rated the causes of the behaviours according to three causal dimensions (locus of causality, stability, and controllability; adapted from Russel, 1982), thus we expected that causal dimension attributions would be perceived as less internal, less stable, and less controllable when behaviours are performed by children. .

Method

Participants. Sixty-five psychology undergraduate students ($M_{\text{age}} = 20.75$ years, $SD = 6.98$, 57 females, 7 males, 1 participant selected *other*) participated in the present study, which took place in the Faculty of Psychology of the University of Lisbon (FPUL) in exchange of course credits, by completing a questionnaire developed through *Qualtrics* platform in a session with other lab studies. Fifty-nine participants were Portuguese, and sixty-four participants had Portuguese language as their first language. On average, participants reported having frequent contact with children ($Mdn = 4$) and none of the participants reported having kids.

Procedure. Instructions were the same as in Study 1, only this time, after looking at each pair of photo and behaviour description (e.g., *Simão wanted to know everything about that topic*), participants' task was to answer why the person behaved in that way by rating three possible causes on a 7-point scale ranging from 1 (*not probable at all*) to 7 (*extremely probable*). Each possible cause belonged to a different type of cause: person (e.g., *Simão is very curious*), entity (e.g., *That topic was very interesting*), and circumstance (e.g., *Had to present a paper on that topic*). Moreover, for each photo-behaviour pair, participants also completed a second set of scales preceded by the following sentence: *The reason why he/she did it*. These scales comprised 3 items for each causal dimension: locus of causality (e.g., *is inside Simão/ is outside Simão*), stability (e.g., *is permanent/ is temporary*) and controllability (e.g., *is intended by Simão/ is not intended by Simão*). Each item entailed a bipolar 9-point scale, in which each opposite was at an end of the scale.

Before ending the experiment, just like in Study 1, participants answered the same sociodemographic questions (age, gender, occupation, first language, and nationality), as well as the same questions concerning their contact with children (i.e., *pick from a given list every relationship bond they had with children*; and rate: *in broader terms, how much they liked*

children/adults; which sentence regarding children/adults best applied to them; and how often they got in contact with children; please see Study 1 – materials -, for more details).

Study 2's design was a 2 (actor: child vs. adult) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) x 2 (trait valence: positive vs. negative) with all the factors varying within participants, and dependent variables being the type of cause (person vs. entity vs. circumstance) and causal dimensions (locus of causality vs. stability vs. controllability).

Materials. The trait-implying behaviours, as well as the photographs were the same used in Study 1 (see Study 1's *Materials*, for quick memory refresh and come right back; for the whole pool of trait-implying behaviours see Appendix A). This time, in order to facilitate the respondent's task, the behaviours' descriptions also contemplated the name of the person who performed it. The names used were selected from a listing of the most common Portuguese names in recent years (see Appendix A). The chosen names were moderately frequent in order to not overlap too much with participants' own names if highly frequent, as well as to not elicit other inferences if too infrequent. The sentences for dimensions of cause (locus of causality, stability, and controllability) were adapted and translated from Russel's Causal Dimension Scale (1982). The sentences for types of cause (person, entity, and circumstance) were based on Kelley's covariation model (1988; see Appendix A). These were not pre-tested, but constructed as follows: we made sure that all person sentences contained the implied trait; for the entity sentences, we tried to refer to something present in the situation that would elicit the behaviour in most cases and with most people; and for the circumstance sentences, we tried to make it as much circumstantial as possible, circumscribed to a specific moment (see Appendix A).

Results and Discussion

I will present this section of results by type of causes (i.e., person, entity, and circumstance) and causal dimensions (i.e., locus of causality, stability, and control) separately and readily aggregating it with discussion points in order to facilitate comprehension.

Type of cause: person. Regarding the extent to which the actor's behaviours were attributed to the person depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) repeated measures ANOVA. We also ran contrast analysis between adult and child actors for each of the four types of trait-implying behaviours.

We did not find a statistically significant main effect of actor, $F(1, 59) = 2.49, p = .120, \eta_p^2 = .04$, such that adult-actors in general ($M = 6.75, 95\% \text{ CI} = [6.47, 7.02]$) did not lead to higher attributions to the person than child actors ($M = 6.61, 95\% \text{ CI} = [6.36, 6.85]$). However, our analysis revealed a statistically significant interaction between stereotypicality and actor, $F(1, 59) = 23.65, p < .001, \eta_p^2 = .29$. While child-stereotypical trait-implying behaviours led to roughly as much attribution to the person when the actor was an adult ($M = 6.79, 95\% \text{ CI} = [6.47, 7.12]$) as when the actor was a child ($M = 7.10, 95\% \text{ CI} = [6.84, 7.36]$), adult-stereotypical trait-implying behaviours led to higher attributions to the person when the actor was an adult ($M = 6.71, 95\% \text{ CI} = [6.44, 6.97]$) than when the actor was a child ($M = 6.11, 95\% \text{ CI} = [5.80, 6.42]$). This effect qualifies the main effect of trait stereotypicality found, $F(1, 59) = 38.35, p < .001, \eta_p^2 = .39$, such that child-stereotypical traits led to higher attributions to the person ($M = 6.94, 95\% \text{ CI} = [6.68, 7.21]$) than adult-stereotypical traits ($M = 6.41, 95\% \text{ CI} = [6.15, 6.66]$). Although results do not support that people attribute adults' behaviours to personality more than children's behaviours, it is interesting that only when children perform an adult-stereotypical trait-implying behaviour, are their actions perceived as having to do less with their personality. This is in line with results on how stereotypes affect causal attributions (Kunda & Thagard, 1996), such that behaviours are more likely to be viewed as internal (and

hence in the person) when consistent with the stereotype than when inconsistent (Deaux & Emswiller, 1974; Jackson et al., 1993). That is, a child performing a behaviour which implies a stereotypical trait of adults (i.e., inconsistent with the children's stereotype) will less likely be perceived as having the corresponding trait.

There was also a marginally significant triple interaction between stereotypicality, actor, and valence, $F(1, 59) = 3.19$, $p = .079$, $\eta_p^2 = .05$, which together with the contrast analysis we ran, replicate in whole the Previous Study's results. That is, on the one hand, behaviours implicative of adult-stereotypical traits were more attributed to the person (e.g., *Daniel weighted the advantages and disadvantages before taking on the challenge; Dinis said that gifts are a waste of money*) when the actor was an adult, regardless of the trait being positive e.g., *Daniel is very reflective*), $p = .001$, or negative (e.g., *Dinis is very stingy*), $p = .022$. On the other hand, behaviours implicative of child-stereotypical traits were more attributed to the person (e.g., *Santiago petted a dog while it was waiting for its owner; Salvador wouldn't stand still during the movie*) when the actor was a child, if those trait-implying behaviours were positive (e.g., *Santiago is very affectionate*), $p = .002$, but not if those trait-implying behaviours were negative (e.g., *Salvador is very restless*), $p = .212$. Dix and colleagues' (1986) studies showed that parents infer positive traits from their children's behaviours more easily than they infer negative ones because positive behaviours suggest less personal gains (which indicate higher intentionality). Likewise, negative behaviours suggest less intentionality, since children may have not yet learnt that some behaviours are socially undesirable or inadequate (Dix et al., 1986). Moreover, on the basis of the stereotype content model (Cuddy et al., 2008), perceivers are likely to excuse away behaviours that are stereotype-inconsistent (e.g., situationally caused; Glick et al., 2007, as cited in Cuddy et al., 2008). Given this together, our results suggest that there was a tendency to excuse away children's actions the more the trait-implying behaviours were stereotypical of adults and negative.

No other effect was statistically significant for the type of cause person.

Valence effects. Regarding the valence of the traits implied by the behaviours, our analysis revealed a statistically significant main effect of trait valence for all types of causes, such that positive traits led to higher attributions to the person, $F(1, 59) = 43.26, p < .001, \eta_p^2 = .42$, to the entity, $F(1, 59) = 63.32, p < .001, \eta_p^2 = .52$, and to the circumstance, $F(1, 59) = 55.06, p < .001, \eta_p^2 = .48$, than negative traits (see Table 3 for means and confidence intervals). This finding is not surprising given that people tend to evaluate individuals in a favourable way (positivity bias), especially in the absence of information, people place greater importance on the positive, and often assume the best when it comes to making decisions (e.g., Sears, 1983).

Table 4.

Mean attribution ratings to the three types of cause for positive and negative trait-implying behaviours and respective 95% confidence intervals

Trait valence	Person		Entity		Circumstance	
	<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Positive	7.01	[6.76, 7.27]	6.29	[6.06, 6.52]	6.21	[5.98, 6.45]
Negative	6.34	[6.06, 6.62]	5.32	[5.13, 5.52]	5.23	[4.96, 5.49]

Another effect found for the three types of causes was the statistically significant interaction between stereotypicality and valence, such that negative adult-stereotypical traits led to particularly low attributions to the person, $F(1, 59) = 4.01, p = .050, \eta_p^2 = .06$, to the entity, $F(1, 59) = 21.88, p < .001, \eta_p^2 = .27$, and to the circumstance, $F(1, 59) = 11.77, p = .001, \eta_p^2 = .17$ (see Table 4 for means and CIs).

Table 5.

Mean attribution ratings to the three types of cause for each type of trait-implying behaviour and respective 95% confidence intervals

Type of trait	Person		Entity		Circumstance	
	<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Positive child-stereotypical	7.20	[6.92, 7.48]	6.36	[6.11, 6.61]	6.29	[6.01, 6.57]
Negative child-stereotypical	6.69	[6.37, 7.01]	5.94	[5.70, 6.18]	5.66	[5.34, 5.97]
Positive adult-stereotypical	6.83	[6.56, 7.10]	6.22	[5.96, 6.48]	6.14	[5.90, 6.38]
Negative adult-stereotypical	5.99	[5.69, 6.29]	4.71	[4.39, 5.02]	4.80	[4.47, 5.13]

This finding is also not surprising since overall participants made lower attributions when the implied traits were negative (which I reckoned to be due to the positivity bias), as well as when the implied traits were stereotypical of adult (particularly when the actors were children).

Type of cause: entity. Regarding the extent to which the actor's behaviours are attributed to the entity depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) repeated measures ANOVA. We also ran contrast analysis between adult and child actors for each of the four types of trait-implying behaviours.

Contrary to the previous type of cause, we found a statistically significant main effect of actor for the entity, $F(1, 59) = 15.61, p < .001, \eta_p^2 = .21$, such that adult actors in general led to higher attributions to the entity ($M = 6.05, 95\% \text{ CI} = [5.83, 6.26]$) than child actors ($M = 5.57, 95\% \text{ CI} = [5.36, 5.78]$), suggesting that participants perceived adults' behaviours as more responsive to the situation than children's behaviours. There was also a statistically significant main effect of trait stereotypicality, $F(1, 59) = 36.54, p < .001$, such that child-stereotypical traits led to higher attributions to the entity ($M = 6.15, 95\% \text{ CI} = [5.94, 6.36]$) than adult-stereotypical traits ($M = 5.47, 95\% \text{ CI} = [5.26, 5.67]$). This effect was qualified by the

interaction between stereotypicality and valence (negative adult-stereotypical traits led to the lowest attributions to the entity; see Table 4). Moreover, contrast analysis revealed that when the actor was an adult, both positive child-stereotypical trait-implicating behaviours (e.g., *Santiago petted a dog while it was waiting for its owner*), $p = .001$, and negative child-stereotypical trait-implicating behaviours (e.g., *Salvador wouldn't stand still during the movie*), $p = .008$, were more attributed to the entity (e.g., *the dog was really cute; the movie was really boring*) than when the actor was a child. Likewise, positive adult-stereotypical trait-implicating behaviours (e.g., *Daniel weighed the advantages and disadvantages before taking on a challenge*), were also more attributed to the entity (e.g., *it wasn't obvious if the challenge was worthy*) when the actor was an adult than a child, $p = .004$. Only negative adult-stereotypical trait-implicating behaviours (e.g., *Dinis said that gifts are a waste of money*), showed no differences in the attributions to the entity (e.g., *those gifts were too expensive*) between child and adult actors, $p = .563$.

In sum, participants seem to believe that the entity (i.e., something or someone in the situation with whom a person who performs a behaviour interacts with) plays a stronger role in adults' actions than in children's actions. One could argue that adults adjust their behaviours to the situation more than children do, whereas children's behaviours seem to be elicited an all-or-nothing interpretation. For instance, adults pet cute dogs (but not dangerous dogs), adults are restless when watching a boring movie (but not when watching an interesting one), whereas children pet any dog (or are afraid of every dog), and are bad-behaved in any type of movie (or are good-behaved in every type of movie).

No other effect was statistically significant for the type of cause entity.

Type of cause: circumstance. Regarding whether the actor's behaviours are attributed to the circumstance depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child

vs. stereotypical of adult) repeated measures ANOVA. We also ran contrast analysis between adult and child actors for each of the four types of trait-implying behaviours.

Our analysis did not reveal a statistically significant main effect of actor, $F(1, 59) = 1.66$, $p = .203$, $\eta_p^2 = .03$, such that in general neither adult ($M = 5.65$, 95% CI = [5.40, 5.89]) or child actors ($M = 5.79$, 95% CI = [5.55, 6.03]) led to higher attributions to the circumstance. This suggests that participants considered that circumstances were as much accountable for adults' actions as they were for children's actions. However, our analysis also revealed a statistically significant interaction between stereotypicality and actor, $F(1, 59) = 27.72$, $p < .001$, $\eta_p^2 = .32$, such that child-stereotypical trait-implying behaviours led to roughly as much attribution to the circumstance when the actor was an adult ($M = 6.16$, 95% CI = [5.89, 6.44]) as when the actor was a child ($M = 5.78$, 95% CI = [5.49, 6.07]), whereas adult-stereotypical trait-implying behaviours led to higher attributions to the circumstance when the actor was a child ($M = 5.80$, 95% CI = [5.52, 6.08]) than when the actor was an adult ($M = 5.13$, 95% CI = [4.84, 5.42]). Interestingly, participants attributed the same behaviours more to the circumstance (e.g., someone told them to do it, or it was a fluke) when performed by a child than when performed by an adult. In addition, contrast analysis revealed that adult-stereotypical trait-implying behaviours were more attributed to the circumstance (e.g., *he was told to think hard about it before deciding; it wasn't supposed to bring gifts to that party*), both when positive (e.g., *Daniel weighted the advantages and disadvantages before taking on a challenge*), $p = .002$, and negative (e.g., *Dinis said that gifts are a waste of money*), $p = .007$, when the actor was a child than when the actor was an adult. Regarding child-stereotypical trait-implying behaviours, negative ones (e.g., *Salvador wouldn't stand still during the movie*) led to higher attributions to the circumstance (e.g., *he had a leg pain which was bothering him*) when the actor was an adult rather than a child, $p = .008$, whereas for positive ones (e.g., *Santiago petted a dog while it was waiting for its owner*), there was no significant difference in the attribution

to the circumstance (e.g., *his friend stopped to pet the dog*) between adult and child actors, $p = .107$.

Interestingly, considering adult-stereotypical traits, the results of attributions to the circumstance show an inverse pattern from those of attributions to the person, such that regardless of the traits' valence, participants made higher attributions to the circumstance when the actor was a child and higher attributions to the person when the actor was an adult. This is again in line with results on how stereotypes affect causal attributions (Deaux & Emswiller, 1974; Jackson et al., 1993), as a behaviour consistent with the stereotype (e.g., an adult-stereotypical trait-implying behaviour performed by an adult) is more likely to be viewed as internal than when inconsistent (e.g., an adult-stereotypical trait-implying behaviour performed by a child).

There was also a statistically significant main effect of trait stereotypicality, $F(1, 59) = 23.52$, $p < .001$, $\eta_p^2 = .29$, such that child-stereotypical traits led to higher attributions to the circumstance ($M = 5.97$, 95% CI = [5.73, 6.22]) than adult-stereotypical traits ($M = 5.47$, 95% CI = [5.23, 5.70]). This effect is qualified by the interaction between stereotypicality and valence, where negative adult-stereotypical traits led to the lowest attributions to the circumstance (see Table 4). Again, negative adult-stereotypical traits seem to be those with the least chance of explaining why people behaved in the way they did. No other effect was statistically significant for the type of cause circumstance.

Type of causes: together. We also ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) x 3 (type of cause: person vs. entity vs. circumstance) repeated measures ANOVA. Our analysis revealed a significant main effect of type of cause, $F(2, 118) = 47.02$, $p < .001$, $\eta_p^2 = .44$, such that overall participants made higher attributions to the person ($M = 6.68$, 95% CI = [6.43, 6.92]) than to the entity ($M = 5.81$, 95% CI = [5.63, 5.98]), or to the circumstance ($M = 5.72$, 95% CI = [5.50, 5.94]). This result is consistent with the fundamental attribution error,

where people emphasize dispositional causes relative to situational ones (Ross, 1977; as cited in Miller, Smith & Uleman, 1981). In addition, people are more prone to make trait inferences when they read about people's behaviours (Uleman, Newman & Moskowitz, 1996), particularly when these are trait-implying and unambiguous (which our material was).

Moreover, a statistically significant interaction between actor and type of cause, $F(2, 118) = 8.66, p < .001, \eta_p^2 = .13$, reveals that participants made less attributions to the entity when the actor was a child than when the actor was an adult (see Table 5).

Table 6.

Mean attribution ratings to the three types of cause per actors' age and respective 95% confidence intervals

Actor	Person		Entity		Circumstance	
	<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Child	6.61	[6.36, 6.85]	5.57	[5.36, 5.78]	5.79	[5.55, 6.03]
Adult	6.75	[6.47, 7.02]	6.05	[5.83, 6.26]	5.65	[5.40, 5.90]

This effect is qualified by a further statistically significant interaction with trait stereotypicality (Actor x Stereotypicality x Type of Cause, $F(2, 118) = 28.52, p < .001, \eta_p^2 = .33$), such that there seems to be a different pattern for each cause depending on the actor's age (see Figure 3). For instance, when the actor was an adult, behaviours were attributed to the person regardless of the stereotypicality of the trait implied by the behaviour. The patterns of external causes reveal that behaviours seem to have been more co-caused by these causes when they implied child-stereotypical traits than adult-stereotypical traits. Moreover, child-stereotypical traits led to higher attributions to the person and the entity than adult-stereotypical traits when the actor was a child, and there was no difference in attributions to the circumstance between trait-stereotypicality traits for children's behaviours.

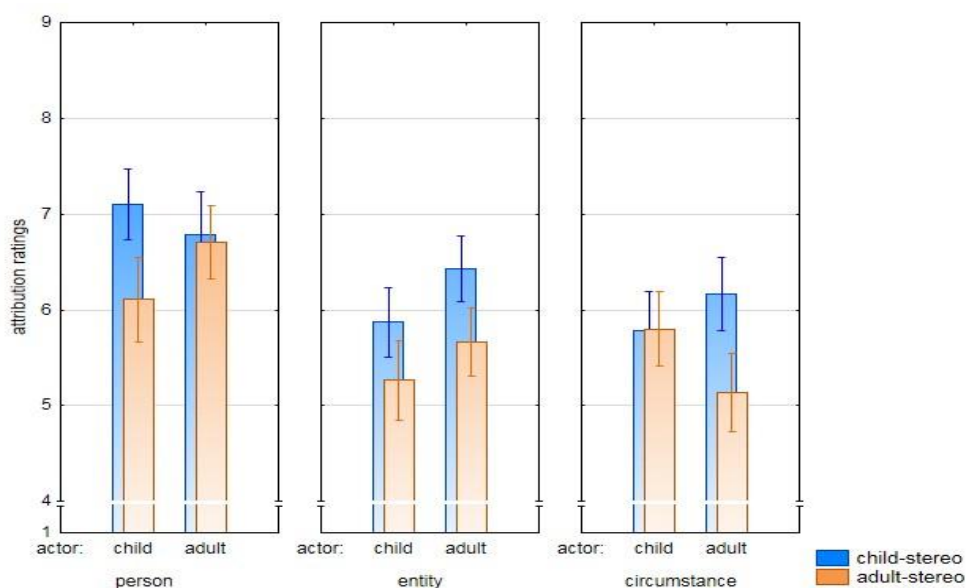


Figure 3. Mean attribution ratings to type of cause (person, entity, and circumstance) per actor (child vs. adult) and trait stereotypicality (child-stereotypical vs. adult-stereotypical). Error bars represent standard deviations.

In other words, although attributions to adult actors corroborate that counter-stereotypical traits (i.e., child-stereotypical trait-implying behaviours) lead to more external causes (entity and circumstance), particularly when negative, this was not the case for child actors. When the actor was a child, behaviours which implied counter-stereotypical traits (i.e., adult-stereotypical trait-implying behaviours) were as much attributed to the circumstance as congruent-stereotypical traits (i.e., child-stereotypical trait-implying behaviours). On the basis of the stereotype content model (Fiske et al., 2002; Cuddy et al., 2008), regardless of the behaviours' valence, when behaviours match stereotypical expectations, perceivers are likely to make dispositional attributions, whereas behaviours that are stereotype-inconsistent should be excused away (e.g., situationally caused; Glick et al., 2007, as cited in Cuddy et al., 2008).

May the reader recall from our analysis of variance and contrast analysis that adult-stereotypical trait-implying behaviours, which were more attributed to the person when performed by an adult and more attributed to the circumstance when performed by a child (regardless of the trait valence).

However, while positive child-stereotypical trait-implying behaviours were more attributed to the person when the actor was a child, they were equally attributed to the circumstance regardless of the actor's age. On the contrary, negative child-stereotypical trait-implying behaviours were equally attributed to the person regardless of the actor's age, but more attributed to the circumstance when the actor was an adult. This pattern suggests that participants did not consider child-stereotypical trait-implying behaviours as typical of children because otherwise, child-stereotypical trait-implying behaviours would have been more attributed to the person when performed by a child and more attributed to the circumstance when performed by an adult (regardless of the trait valence). Since the material by the means they were constructed - a first sample generating typical attributes of children and adults, a second independent sample who evaluated those traits by means of rating scales, and then only traits which clearly leaned to just one of the adult-child stereotypicality were selected (i.e., a child-stereotypical trait is counter-stereotypical of adults and the contrary is also true). That is, although child-stereotypical traits are counter-stereotypical of adults, one could argue that they still have access to them (e.g., adults can also be curious, caring, restless, and irresponsible, as seen in Study 1). However, adult-stereotypical traits not only are counter-stereotypical of children as these do not yet have access to many of them (e.g., *reflective*, *hard-workers*, *organized*) because they are yet to develop.

Before moving on to the results on causal dimensions, allow me to remind the reader that the next analyses are in regard to participants' answers to the second set of scales, which comprises three items for each causal dimension (i.e., locus of causality, stability, and controllability).

Causal dimension: locus of causality. Regarding the extent to which attributions to the actor's behaviours are viewed as internal or external depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait

stereotypicality: stereotypical of child vs. stereotypical of adult) repeated measures ANOVA on the average ratings of the three locus of causality items (e.g., *reflects an aspect of the situation/ reflects an aspect of Joana; outside of Joana/ inside of Joana; something about others/ something about Joana*). We also ran contrast analysis between adult and child actors for each of the four types of trait-implicating behaviours.

The analysis of variance revealed a marginally significant main effect of actor, $F(1, 59) = 3.73, p = .058, \eta_p^2 = .06$, suggesting a tendency for adult actors in general to have led to more internal attributions ($M = 6.16, 95\% \text{ CI} = [5.93, 6.38]$) than child actors ($M = 6.00, 95\% \text{ CI} = [5.75, 6.25]$). Although only marginal, this result is in line with our prediction. This effect is qualified by a statistically significant interaction between stereotypicality and actor, $F(1, 59) = 6.88, p = .011, \eta_p^2 = .10$, suggesting that behaviours implicative of adult-stereotypical traits led to more internal attributions when the actor was an adult ($M = 6.22, 95\% \text{ CI} = [5.99, 6.45]$) than when the actor was a child ($M = 5.88, 95\% \text{ CI} = [5.62, 6.15]$). This difference between actors did not emerge for behaviours implying child-stereotypic traits ($M_{\text{adult}} = 6.09, 95\% \text{ CI} = [5.82, 6.35]; M_{\text{child}} = 6.12, 95\% \text{ CI} = [5.86, 6.37]$). The fact that adult-stereotypical traits led to more internal attributions when the actor was an adult is not surprising, since the trait-implicating behaviours are congruent with the actor's stereotype (Deaux & Emswiller, 1974; Jackson et al., 1993). However, this was not true for child-actor's and their stereotypical trait-implicating behaviours. In line with the results discussed in the previous subsection, this seems to support the assumption that since adults are more developed than children, child-stereotypical trait-implicating behaviours are perceived to be as much "inside of them" as traits stereotypical of adults. The contrast analysis revealed that only positive adult-stereotypical trait-implicating behaviours (e.g., *Daniel weighted the advantages and disadvantages before taking on a challenge*) tended to lead to more internal attributions when the actor was an adult than when the actor was a child, $p = .004$. Every other type of trait-implicating behaviour was viewed as equally inside the person, having to do with the person and reflecting the person regardless of

the actors' age, namely positive child-stereotypical (e.g., *Madalena wrote a fantasy story with amazing details*), $p = .601$, negative child-stereotypical (e.g., *Ever since Laura met her new friend, she started doing wrong things she didn't do before*), $p = .936$, and negative adult-stereotypical (e.g., *Of all the games, Mafalda chose the one that could be played without company*), $p = .282$.

Valence effects. Regarding the valence of the traits implied by the behaviours, our analysis revealed a statistically significant main effect of trait valence for all causal dimensions, such that positive traits led to more internal attributions, $F(1, 59) = 61.46$, $p < .001$, $\eta_p^2 = .51$, more stable attributions, $F(1, 59) = 52.56$, $p < .001$, $\eta_p^2 = .47$, and more controllable attributions, $F(1, 59) = 142$, $p < .001$, $\eta_p^2 = .71$, than negative traits (see Table 6 for means and CIs). Similarly to valence effects on types of causes, I reckon this is again due to the positivity bias (e.g., Sears, 1983). Since people tend to see others in a positive way, it is more than reasonable that positive trait-implying behaviours are more attributed to internal factors and are seen as more stable across time, as well as more controllable.

Table 7.

Mean attribution ratings to the three causal dimensions for positive and negative trait-implying behaviours and respective 95% confidence intervals

Trait valence	Locus		Stability		Controllability	
	<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Positive	6.46	[6.21, 6.72]	4.56	[4.34, 4.77]	6.42	[6.20, 6.64]
Negative	5.70	[5.47, 5.92]	3.97	[3.80, 4.15]	5.72	[5.51, 5.92]

Another effect found for the three causal dimensions was the statistically significant interaction between stereotypicality and valence, such that negative child-stereotypical trait-implying behaviours led to particularly low internal attributions, $F(1, 59) = 14.02$, $p < .001$, $\eta_p^2 = .19$, low stable attributions, $F(1, 59) = 16.03$, $p < .001$, $\eta_p^2 = .21$, and low controllable attributions, $F(1, 59) = 79.30$, $p = .001$, $\eta_p^2 = .57$ (see Table 7 for means and CIs).

Table 8.

Mean attribution ratings to the three causal dimensions for each type of trait-implying behaviour and respective 95% confidence intervals

Type of trait	Locus		Stability		Controllability	
	<i>M</i>	95% CI	<i>M</i>	95% CI	<i>M</i>	95% CI
Positive child-stereotypical	6.62	[6.34, 6.89]	4.54	[4.29, 4.80]	6.51	[6.27, 6.76]
Negative child-stereotypical	5.59	[5.34, 5.84]	3.65	[3.46, 3.84]	5.22	[5.00, 5.45]
Positive adult-stereotypical	6.30	[6.04, 6.57]	4.57	[4.35, 4.80]	6.33	[6.11, 6.56]
Negative adult-stereotypical	5.80	[5.55, 6.06]	4.30	[4.10, 4.50]	6.21	[6.00, 6.45]

Although it is not surprising that negative traits are perceived to be less internal, less stable, and less controllable (as people tend to perceive others in a more positive way; Sears, 1983), it is interesting to address the fact that negative child-stereotypical traits are even less attributed to internal, stable, and controllable causes than negative adult-stereotypical traits. One could argue that this difference could reflect beliefs that people outgrow negative child-stereotypic traits (e.g., restless, irresponsible) throughout development, while negative adult-stereotypical traits (e.g., *materialistic*, *stingy*) are acquired by society's influence. Moreover, may the reader recall that of all four types of trait-implying behaviour, negative adult-stereotypical ones led to the lowest attributions to the person, to the entity, and to the circumstance. Attribution theorists argue that the more predictable the behaviour of others, the more we can perceive the social environment to be stable, understandable, and controllable (e.g., Nisbett et al., 1973). Negative adult-stereotypical trait-implying behaviours seem to be the most unpredictable type of trait-implying behaviour, as they were the least explained by any of the type of cause, thus supporting the belief that people have a hard time understanding why certain people behave in such negative ways.

No other effect was statistically significant for the causal dimension locus of causality.

Causal dimension: stability. Regarding the extent to which attributions to the actor's behaviours are viewed as stable or unstable across time depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) repeated measures ANOVA, on the average ratings of three stability items (e.g., *temporary/ permanent; variable over time/ stable over time; changeable/ unchanging*). We also ran contrast analysis between adult and child actors for each of the four types of trait-implying behaviours.

The analysis of variance revealed a statistically significant main effect of actor, $F(1, 59) = 4.82, p = .032, \eta_p^2 = .08$, such that adult actors in general led participants to evaluate the causes of the behaviours as more stable ($M = 4.35, 95\% \text{ CI} = [4.16, 4.53]$) than child actors ($M = 4.18, 95\% \text{ CI} = [3.98, 4.39]$). This is in line with our prediction that, as with development children's behaviour becomes more stable (Dix et al., 1986), adults' behaviours would be considered even more stable. We also found a statistically significant main effect of stereotypicality, $F(1, 59) = 26.97, p < .001, \eta_p^2 = .31$, suggesting that adult stereotypical trait-implying behaviours led to attributions of more stable causes ($M = 4.43, 95\% \text{ CI} = [4.25, 4.62]$) than child stereotypical traits ($M = 4.10, 95\% \text{ CI} = [3.91, 4.29]$). These two main effects are in line with the assumption that children's characteristics are perceived as less malleable. Note that the main effect of stereotypicality is qualified by the interaction Stereotypicality x Valence (see Table 7).

The contrast analysis revealed a tendency for participants to attribute more stability to positive adult-stereotypical traits (e.g., *Rafael spent a few extra hours finishing his task so that so that it would be well done*) when the actor was an adult than when the actor was a child, $p = .074$, following the same pattern as locus of causality attributions. Every other type of trait-implying behaviour was viewed as equally permanent, stable across time, and unchanging regardless of the actors' age, namely positive child-stereotypical (e.g., *Diana fantasized what she would do if she won that prize*), $p = .829$, negative child-stereotypical (e.g., *David bumped*

into a pole while walking down the street), $p = .276$, and negative adult-stereotypical (e.g., *It took half an hour for Duarte to tell a funniless story, that he had already told*), $p = .168$.

According to Jackson and collaborators (1993), if the target's behaviour is inconsistent with the group's stereotype (e.g., adult-stereotypical trait-implying behaviour performed by a child), then attributions to internal unstable causes would follow. Interestingly, this was true for all of the types of traits, except our participants also attributed internal unstable causes to trait-implying behaviours consistent with the actor's stereotype. One should note that while attribution ratings to the locus of causality ranged, approximately, from 5.5 to 7 points on the 9-point rating-scale available to participants, attributional ratings to stability only ranged, approximately, from 3.5 to 5 points. This indicates that overall participants considered the actors' behaviours as unstable, and since stability is "assessed" across time, the fact that stability attributions were in general low could be due to the lack of information on the actor's prior behaviours. No other effect was statistically significant for the causal dimension stability.

Causal dimension: controllability. Regarding the extent to which attributions to the actor's behaviours are viewed as controllable or not depending on the actor being an adult or a child, we ran a 2 (actor: child vs. adult) x 2 (trait valence: positive vs. negative) x 2 (trait stereotypicality: stereotypical of child vs. stereotypical of adult) repeated measures ANOVA, on the average ratings of the three controllability items (e.g., *uncontrollable by Joana/ controllable by Joana; unintended by Joana/ intended by Joana; and no one is responsible/ someone is responsible*). We also ran contrast analysis between adult and child actors for each of the four types of trait-implying behaviours.

The ANOVA revealed a statistically significant main effect of actor, $F(1, 59) = 4.60$, $p = .036$, $\eta_p^2 = .07$, such that adult actors in general led to higher attributions of control ($M = 6.15$, 95% CI = [5.93, 6.36]) than child actors ($M = 5.99$, 95% CI = [5.77, 6.21]), in line with our prediction, as behaviours become more controllable with development (Dix et al., 1986).

Contrast analysis revealed that this difference is mainly due to higher attributions to control when the actor is an adult and the behaviour implies a positive adult-stereotypical trait (e.g., *Margarida wanted to win everyone in the first stage and pass the finals directly*), $p = .008$, indicating that participants considered adults to be more responsible for these type of behaviours, having intended to perform them more, and having more control over them than children. We also found a statistically significant main effect of stereotypicality, $F(1, 59) = 37.08$, $p < .001$, $\eta_p^2 = .39$, such that adult-stereotypical traits led to more attributions of control ($M = 6.27$, 95% CI = [6.06, 6.49]) than child-stereotypical traits ($M = 5.87$, 95% CI = [5.65, 6.08]). This effect was qualified by the between Stereotypicality x Valence interaction, such that behaviours implicative of negative child-stereotypical traits led to the lowest attributions to control (see Table 7). Furthermore, contrast analyses revealed that: For positive child-stereotypical trait-implicating behaviours (e.g., *Luana said a joke that revealed her sharp sense of humor*), $p = .347$, negative child-stereotypical trait-implicating behaviours (e.g., *Íris left her younger sister alone in the pool, although she was asked to be around*), $p = .845$, as well as negative adult-stereotypical trait-implicating behaviours (e.g., *Lucas badmouthed his friend on his back, but when they're together they're all smiles*), $p = .722$, participants considered that the actors were responsible for their actions, intended to do them, and were able to control them, regardless of their age. No other effect was statistically significant for the causal dimension controllability.

Contact with children. Just like in Study 1, besides sociodemographic data, we also collected data on how much participants liked children and adults (in broader terms), as well as of the extent to which they associated positive or negative things to these two groups. Regarding how much participants reported to like children, as well as adults, a t -test for dependent samples revealed a slight preference for children ($M = 5.98$, 95% CI = [5.74, 6.23]) over adults ($M = 5.23$, 95% CI = [5.00, 5.46]); $t(64) = 5.24$, $p < .001$, $d_{\text{unbiased}} = 0.79$.

Regarding the association of children versus adults with positive or negative things, a t -test for dependent samples revealed more positive associations with children than adults, $t(64) = 10.88$, $p < .001$, $d_{\text{unbiased}} = 1.71$., as participants associated children with more positive things ($M = 6.15$, 95% CI = [5.92, 6.39]), and associated adults with things equally negative and positive ($M = 4.40$, 95% CI = [4.13, 4.67]). Just like Study 1's results, the aforementioned are also in line with previous studies which report that children are perceived in a more positive way than adults (Han et al., 2015; Senese et al., 2013).

General Discussion

The main goal of the present work was to better understand how people perceive the same behaviour performed by children and adults, particularly to what extent do people categorize the same behaviour differently when performed by a child or an adult, as well as to what extent do people attribute different causes to those behaviours depending on the actor's age. We were particularly interested in adult-stereotypical trait-implying behaviours, as these were where the Previous Study found most differences in trait inference. In Study 1, participants were asked to describe trait-implying behaviours using only one or two words. Traits implied by the behaviours (to which we called expected traits) were used more often to describe adults' behaviours, whereas when the actors were children, participants used more often non-trait words. These results show that the categorization of the same behaviour performed by an adult and a child may differ depending on the actor's age, even when the behaviour is quite unambiguous. Moreover, participants' descriptions of negative trait-implying behaviours seem to suggest that participants were less critical of children's negative behaviours (e.g., *typical of a child*, *kids' play*, and *no self-control*) than adult's behaviours (e.g., *wrong*, *harmful*, and *immature*). One should note that because of difficulties in finding material, mainly due to people perceiving neutral children's faces as odd, faces were smiling. This could be misleading when participants read about what someone did and associate that the person who

did it is happy about it, particularly for negative behaviours. Nonetheless, all actor's faces, either child or adult, were smiling. The fact that participants used more expected trait words to describe adult's behaviours and more non-trait words to describe children's behaviours is also in line with person perception theories, which state that the way the behaviour is categorized will facilitate the characterization of the actor (e.g., Gilbert, 1988; Trope, 1986). Seems that when the actors are children, the categorization of the behaviour does not facilitate trait inference (characterization of the actor) as much as it does when the actors are adults. Since globally it was not the case that participants inferred a different trait, but rather inferred less the same trait when the actor was a child, to what extent were participants categorizing the behaviours differently, or were they adjusting their inferences could be further investigated by measuring participants' response times. With the present methodology it would not be possible to include this measure as writing time duration would vary, for instance, for word length and participants' ability to type in the computer. A follow-up on this will be presented in the next subsection. Moreover, one should also note that participants saw verbal descriptions of the behaviours e not behaviours being actually performed. Although we do not know if results would be similar in that case, since it is more natural for people to make this kind of inferences in social interactions, I reckon that results could even be stronger.

Although there were differences in the categorization of trait-implying behaviours, these differences did not entirely overlap to the differences found in the deliberate trait inferences from our lab's previous study. Differences in categorization were found particularly for negative trait-implying behaviours, whereas differences in characterization were found particularly for adult-stereotypical trait-implying behaviours. Since processes of person perception also encompass causal attributions, we also collected evidence on causal attributions to the same behaviour performed by an adult and a child. Participants evaluated two sets of rating scales, separately, on how probable were the three types of causes, adapted from Kelley (1973), as well as the three causal dimensions, adapted from Russel (1982).

As we predicted, results from Study 2 showed that adult-stereotypical traits led to higher attributions to the person when the actor was an adult. This is in line with behaviours being more likely to be viewed as internal (and hence in the person) when consistent with the stereotype than when inconsistent (e.g., Deaux & Emswiller, 1974; Jackson et al., 1993). Contrary, behaviours that are stereotype-inconsistent should be excused away (e.g., situationally caused; Glick et al., 2007, as cited in Cuddy et al., 2008). Accordingly, adult-stereotypical trait-implying behaviours were more attributed to the person when performed by an adult and more attributed to the circumstance when performed by a child (regardless of the trait valence). However, this pattern was not symmetrical for child-stereotypical trait-implying behaviours, suggesting they were not considered as typical of children. On the one hand, while positive child-stereotypical trait-implying behaviours were more attributed to the person when the actor was a child, they were equally attributed to the circumstance regardless of the actor's age. On the other hand, negative child-stereotypical trait-implying behaviours were equally attributed to the person regardless of the actor's age, but more attributed to the circumstance when the actor was an adult. This pattern suggests that participants did not consider child-stereotypical trait-implying behaviours as typical of children. Together with Study 1's results, I reckon that this pattern of attributions to the person and the circumstance could be explained by the compensation between warmth and competence judgments (see Judd, James-Hawkins, Yzerbyt, & Kashima, 2005, for more on the compensation effect). This is not to say that compensation effect occurred because we did not test for it, but rather to stress that since children are perceived as a high-warmth and low-competence social group (Fiske, 2018), higher or lower attributions to the person will be guided by warmth and competence perceptions as children's stereotypical traits (e.g., *caring*) belong mainly to the social domain, as well as adult-stereotypical traits (e.g., *caring*) belong mainly to the intellectual domain. Hence we would have positive child-stereotypical traits and negative adult-stereotypical traits “inside warmth”, and positive adult-stereotypical traits and negative child-stereotypical traits

“inside competence”. One should also note that possible causes adapted from Kelley (1973) were constructed by us and in some cases we had difficulty in doing so. In a couple of cases, the trait-implying sentence itself already incorporated a *why* (e.g., *Alice offered to help her farther because she knew he would give her money*). Although we did try to be systematic, it is fairly possible that we have introduced some bias, hence it would be important to replicate this study with different material (e.g., constructed with more systematic interjudge agreement). Study 2’s results also support that external causes should not be distinguished only between personal and situational, since circumstance and entity are both situational and participants made more attributions to the entity when the actor was a child for child-stereotypical traits than adult-stereotypical traits, but there was no difference in attributions to the circumstance regarding those same trials.

Regarding the causal dimensions, adult actors in general led participants to evaluate the causes of the behaviours as more stable internal, stable over time (i.e., more permanent and less changeable), and more controlled (i.e., adults were more responsible for their actions and intended more to do them), particularly for positive adult-stereotypical trait. This was in line with more child-development research, such that with development children’s behaviour becomes more stable and controllable, moving from an external causation to a more internal causation (Dix et al., 1986). Adults’ behaviours would then be even more stable and controllable, as well as adult’s behaviours are perceived to reflect more their personality as opposed to children who are yet to develop theirs. According to Jones and Davis (1965), in order to attribute stable characteristics to people, behaviours must be perceived as intentional. Since children’s behaviours tend to be perceived as less intentional (particularly negative ones), then unstable attributions would follow. One must note that the Causal Dimension Scale (CDS; Russel, 1982) used was not the most recent one (CDSII; McAuley et al., 1992) and since the latter aimed to correct issues on the controllability dimension, results (particularly on this dimension) should be interpreted with caution.

Although child-stereotypical behaviours were more attributed to the person when the actor was an adult than when the actor was a child, they were not considered more internal, stable, and controllable. One possibility is that participants' attributions to the person have to do with the perceived characteristics of the actors based on stereotypes, while at the same time participants perceived children's personality to be in development and hence can change. Additional data was collected on the degree of contact with children (e.g., frequent), as well as the relationship bond (e.g., sons and daughters, or students). I would be interested in finding out whether people with different degrees of contact with children would show different patterns of responses found in the present studies. Unfortunately, we could not test for this hypothesis as our sample was not big or representative enough. We also collected on how much participants liked children and adults (in broader terms), as well as of the extent to which they associated positive or negative things to these two groups showed a tendency to prefer children over adults, which supports other results on how children are perceived in a more positive way than adults (Han et al., 2015; Senese et al., 2013).

Taken together, what can our findings tell us about how we perceive behaviours of children versus adults? In short, Study 1 showed that participants categorized differently the same behaviours performed by adults and children. Not only did they used more traits implied in those behaviours to describe adult's behaviours, as they also used more non-trait words to describe children's behaviours. Children's behaviour was less attributed to the person and more to the circumstance when the implied trait was stereotypical of adults. Adults' behaviour was more attributed to the entity (i.e., another person/object in the situation) than children's behaviour. Adults' behaviour was attributed to more internal, more stable and more controllable causes than children's behaviour.

Furthermore, implications to social interaction should also be addressed. Children are indeed a great deal of our social world and hence better understanding how other social groups perceive them seems of utmost importance. Thus, the way one perceives children's behaviours

also guides reactions to those behaviours (Dix et al., 1986), particularly in learning environments (Weiner, 1972). Thus, more applied research should work hand in hand with person perception field on providing more knowledge especially useful for those who engage in everyday contact with children (e.g., parents and teachers). What happens when teachers and parents do not attribute adult-stereotypical behaviours, namely being organized and reflective to children?

Follow-up Study.

We know from current models of attribution that following the initial automatic process of trait inference, people engage in more elaborate causal reasoning to assess whether the behaviour was caused by the actor's traits or by alternative factors (Gilbert et al, 1988). Moreover, Smith and Miller (1983) found that participants took longer to make attribution than trait judgements. Indeed, Gilbert and collaborators (1988) found evidence for early stages of perception (categorization and characterization) being more automatical and correction judgements requiring more cognitive resources. In Study 1, we found that participants used more frequently traits implied by the behaviours to describe adults' behaviours, whereas participants used more frequently non-trait words to describe children's behaviours. These results show that the categorization of the same behaviour performed by an adult and a child may differ depending on the actor's age, even when the behaviour is quite unambiguous. Since globally it was not the case that participants inferred a different trait, but rather inferred less the same trait when the behaviour was performed by a child, to what extent were participants from Study 1 categorizing the behaviours differently, or adjusting their inferences? It would be interesting to address this because we did not collect response times in Study 1 (and it was not methodologically correct to do it). I reckon that one could use *Mousetracker* software to record not only participants' response times (RTs), but also their dominant hand motion responses. As the perceptual and cognitive systems continuously update motor responses, thus

studying hand movements can offer additional insight to mental processes (Spivey, Richardson, & Dale, 2008).

I would also be interested in finding out whether people with different degrees of contact with children perceive their behaviours differently. For this reason, we would have three experimental groups (parents vs. teachers vs. control). We would control for parents who have children under the age of 10 (same sample size for mothers and fathers); pre-school and/or elementary-school teachers; and controls would be people who have little contact with children. Since straighter trajectories indicate a more direct association between the face and the target, and longer curvilinear trajectories would signal the opposite, I would expect that if participants do categorize children's behaviours in a more category-based way, longer curvilinear trajectories would. Regarding the different degree of contact groups, I would expect that parents make straighter trajectories than teachers, and that controls would be the ones to report longer curvilinear ones.

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Appendix A

List of trait-implying behaviours used per stereotypicality (adult- vs. child-stereotypical trait) and valence (positive vs. negative trait) and respective possible causes by class (person vs. entity vs. circumstance)

Trait	Behaviour	Person	Entity	Circumstance
<i>Child Stereotypical Positive</i>				
sonhadora	A Diana fantasiou com o que faria se ganhasse aquele prémio.	A Diana é muito sonhadora.	O prémio abria muitas possibilidades.	Perguntaram-lhe o que faria se ganhasse o prémio.
aventureiro	O Gabriel escolheu um campo de férias onde podia explorar coisas novas e sentir adrenalina.	O Gabriel é muito aventureiro.	Era o campo de férias com melhores avaliações.	Os seus amigos iam para esse campo de férias.
curioso	O Simão quis saber tudo sobre aquele assunto.	O Simão é muito curioso.	Aquele assunto era muito interessante.	Tinha de fazer um trabalho sobre aquele assunto.
engraçada	A Luana disse uma piada que revelou o seu apurado sentido de humor.	A Luana é muito engraçada.	Era uma piada conhecida, mas muito boa.	As pessoas à sua volta riam com facilidade.
imaginativa	A Madalena compôs uma história de fantasia com pormenores surpreendentes.	A Madalena é muito imaginativa.	A descrição da tarefa pedia que fossem incluídos esse tipo de pormenores.	Tinham-lhe contado uma história parecida há pouco tempo.
carinhoso	O Santiago fez festas a um cão enquanto este estava à espera do dono.	O Santiago é muito carinhoso.	O cão tinha um ar muito querido.	O amigo que ia com ele parou para fazer festas ao cão.

Child Stereotypical Negative

distraído	O David foi contra um poste enquanto andava na rua.	O David é muito distraído.	O poste estava num local inesperado.	Estava muito escuro na rua.
influenciável	Desde que a Laura conheceu a nova amiga, começou a fazer coisas erradas que antes não fazia.	A Laura é muito influenciável.	A nova amiga é muito manipuladora.	Mudou-se recentemente e era uma forma de se integrar.
irresponsável	A Íris deixou a irmã mais nova sozinha na piscina, apesar de lhe terem pedido para ficar por perto.	A Íris é muito irresponsável.	A irmã nada muito bem.	Alguém tinha tocado à porta.
irrequieto	O Salvador não parou sossegado durante todo o filme.	O Salvador é muito irrequieto.	O filme era muito aborrecido.	Tinha uma dor na perna que o estava a incomodar.
ingénuo	O Gustavo acreditou na desculpa esfarrapada e nem percebeu que estava ser enganado.	O Gustavo é muito ingénuo.	A desculpa parecia genuína à primeira vista.	Estava preocupado a pensar noutra coisa.
imprevisível	A Rita mudou de humor repentinamente e era impossível saber o que ia fazer a seguir.	A Rita é muito imprevisível.	A pessoa com quem estava a falar era muito irritante.	Soube de uma má notícia de que não estava à espera.

Adult Stereotypical Positive

organizada	A Sofia preparou a mochila com tudo o que ia precisar para o dia seguinte.	A Sofia é muito organizada.	No dia seguinte tinha de se levantar muito cedo.	Disseram-lhe que era melhor preparar as coisas de véspera.
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ponderado	O Daniel pesou as vantagens e desvantagens e só depois aceitou o desafio.	O Daniel é muito ponderado.	Não era óbvio se o desafio valia a pena.	Disseram-lhe para pensar bem antes de decidir.
trabalhador	O Rafael ficou umas horas extra a acabar a sua tarefa para que ficasse bem feita.	O Rafael é muito trabalhador.	A tarefa era muito difícil.	Nesse dia não tinha mais nada para fazer.
pensativa	A Francisca ficou sentada a olhar pela janela a considerar o que devia fazer a seguir.	A Francisca é muito pensativa.	O problema que tinha de resolver era complexo.	Não podia sair porque estava a chover.
ambiciosa	A Margarida quis ganhar a todos na primeira etapa e passar às finais diretamente.	A Margarida é muito ambiciosa.	O prémio para quem passasse diretamente às finais era muito bom.	Era a estratégia que o treinador tinha definido.
experiente	Como o Guilherme já tinha passado por muitas situações semelhantes, soube logo o que fazer.	O Guilherme é muito experiente.	A situação não era complicada.	Já lhe tinham dito o que devia fazer naquelas situações.
<i>Adult Stereotypical Negative</i>				
falso	O Lucas disse mal do amigo pelas costas dele, mas quando estão juntos é só sorrisos.	O Lucas é muito falso.	O amigo faz muita chantagem emocional com ele.	O amigo tinha feito asneira, mas não era altura de o confrontar com isso.

interesseira	A Alice ofereceu-se para ajudar o pai porque sabia que ele lhe daria dinheiro.	A Alice é muito interessseira.	O pai fazia sempre questão que ela aceitasse o dinheiro.	Estava com pouco dinheiro naquela altura.
solitária	De entre todos os jogos, a Mafalda escolheu aquele que dava para jogar sem companhia.	A Mafalda é muito solitária.	O jogo era mesmo empolgante.	Não havia mais ninguém por perto com quem pudesse jogar.
aborrecido	O Duarte demorou meia hora a contar uma história sem piada nenhuma que ainda por cima já tinha contado.	O Duarte é muito aborrecido.	A história tinha uma moral importante.	Pediram-lhe que contasse a história outra vez.
forreta	O Dinis disse que dar prendas é um desperdício de dinheiro.	O Dinis é muito forreta.	Aquelas prendas eram demasiado caras.	Não era suposto levar prendas para aquela festa.
materialista	A Marta não se deu ao trabalho de conhecer a colega nova porque ela não tem coisas de marca.	A Marta é muito materialista.	A colega nova não parecia interessada em conhecê-la.	Já havia muita gente à volta da nova colega.

Note. The names included in the sentences are only examples, as the same sentence could be paired with names of different genders, as well as in Study 1 the sentences did not include the name of the actors.

Appendix B

Table B1.

Participants' answers to describe the behaviour implicative of the trait boring (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
chata (6)	falador (4)	necessidade de atenção (5)	chato (7)	esquecida (2)	não-integrante (1)
desinteressante (2)	esquecido (3)	sem noção (2)	desinteressante (4)	carente (2)	ilógico (1)
secante (2)	engraçado (2)	brincadeira criança (1)		vaidoso (1)	precisa de atenção (1)
	alocado (1)	entusiasmado (1)		distraído (1)	frequente (1)
	imaginativo (1)	comunicador (1)		confiante (1)	
	esforçado (1)	jovem (1)		exibicionista (1)	
	carente (1)	coisas de miúdos (1)		irritante (3)	
	adorável (1)	sem percepção da realidade (1)		auto centrada (1)	
	insegura (1)	repetição (1)		esforçada (1)	
	motivado (1)			desagradável (1)	
	problemático (1)			desnecessário (1)	

distraid a(1)	desprop ositado (1)
confian te (1)	parvo (1)
repetiti va (1)	repetitiv o (4)
insisten te (1)	sem piada (1)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B2.

Participants' answers to describe the behaviour implicative of the trait stingy (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
poupa do (2)	céptico (1)	bom (1)	avarent o (2)	antipático (1)	falta de originalidade (1)
sovin a (2)	egoista (2)	cresci da (1)	poupad o (1)	anti-social (1)	fonica (1)
	fria (1)	egoís mo (1)	semític a (1)	assertivo (1)	nem tudo o que é material é simbólico (1)
	gananci oso (1)	inesp erado (1)		comunicat ivo (1)	neutro (1)
	honesto (1)	infant il (1)		consciente (1)	noa amada (1)
	insensí vel (1)	livre arbítrio (1)		crítico (2)	normal (1)
	intelige nte (2)	matur o (1)		desmateri alista (1)	poupança (1)
	maldos o (1)	Politi camente correto (1)		despreocu pado (1)	surpreende nte (1)
	narcisis ta (1)	poupa nça (1)		económic a (1)	
	opinati vo (1)	surpre endente (2)		egoísta (3)	
	presunç oso (1)			incoerente (1)	
	realista (1)			interesseir o (1)	
	sábio (1)			materialist a (1)	

sensato (1)	minimalist a (1)
sincero (3)	pouco sentimental (1)
visioná rio (1)	sincero (1)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B3.

Participants' answers to describe the behaviour implicative of the trait fake (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
dissimulado (1)	indesejado (1)	duas caras (2)	hipócrita (4)	desonesta (1)	falsidade (5)
hipócrita (5)	cínico (1)	errado (1)		egocêntrico (1)	imaturo (1)
	sonso (1)	falsidade (5)		estúpido (1)	infidelidade (1)
	traíçoeiro (1)	infantil (1)		incoerente (1)	mau (1)
				infeliz (1)	
				ingrato (1)	
				inseguro (1)	
				intriguista (2)	
				mentiroso (1)	
				repugnant e (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B4.

Participants' answers to describe the behaviour implicative of the trait materialistic (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Relat ed Traits	Other Traits	Non- Traits	Relat ed Traits	Other Traits	Non- Traits
fútil (6)	altivo (1)	consumis mo (1)	fútil (7)	arrogante (1)	anorm al (4)
super ficial (2)	armada (1)	descrimin atório (1)	super ficial (3)	egoísta (1)	discri minatório (2)
	arrogante (2)	descrimin atório para uma criança (1)		elitista (1)	interpr eta mal (1)
	banal (1)	inadequad o (1)		estúpido (4)	inveja (1)
	elitista (1)	incorrecto (1)		falsa (1)	precon ceito (2)
	estúpida (1)	infantil (1)		ganancios o (1)	social mente inaceitável (1)
	influenciá vel (1)	influncia do (1)		idiota (2)	
	interesseir o (5)	má educação (1)		interesseir o (4)	
	julgador (2)	mania (2)		irritante (1)	
	mal educado (1)	muito negativo (1)		julgador (2)	
	mimado (2)	preconceit o (2)		preconceit uoso (1)	
	preconceit uoso (1)	superiorid ade (1)		ridículo (1)	

ridícula	
(1)	snober (1)
selectivo	
(1)	
snober (2)	
vaidosa	
(1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B5.

Participants' answers to describe the behaviour implicative of the trait self-serving (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
oportunista (3)	aproveitador (1)	inapropriado (1)	oportunist (5)	calculista (1)	bom (1)
	esperto (4)	interesse (2)		capitalista (1)	capitalismo (1)
	falsa (1)	ligeiro (1)		falso (1)	interesses (1)
	ganancioso (2)	segundas intenções (1)		humilde (1)	mau (1)
	ingrato (1)	típico de criança (1)		informado (1)	necessidade e obriga (1)
	inocente (1)			mal intencionado (1)	normal (1)
	inteligente (2)				suborno (1)
	interessada (1)				
	sabida (1)				
	traquin (1)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B6.

Participants' answers to describe the behaviour implicative of the trait lonely (negative adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
	ansioso (1)	amor próprio (1)	sozinha (1)	ativo (1)	autodidata (1)
	anti-social (2)	devid o à vergonha (1)		antisocial (1)	concentração (1)
	independente (4)	estar solitária (1)		contido (1)	normal (4)
	individualista (2)	individualismo (1)		deliberado (1)	solitude (1)
	introverso (3)	isolamento (2)		egoísta (1)	
	reservada (1)	normal (2)		individualista (4)	
	retraído (1)	regular (1)		Introverso (3)	
	superador (1)	solidão (1)		prático (1)	
	tímido (2)			tímido (5)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B7.

Participants' answers to describe the behaviour implicative of the trait experienced (positive adult-stereotypical trait) per actor

Child			Adult		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
Vivida (1)	esperta (5)	crescido (1)	conhecimento (1)	perspicaz (4)	adequado (1)
	inteligente (6)	esperado (1)	vivida (1)	prática (3)	padronizado (1)
	perspicaz (4)	conhecimento o passado (1)		eficaz (1)	experiência (2)
	ready (1)	esperteza (1)		esperto (1)	rotina (1)
	responsável (1)	muito positivo (1)		sábio (2)	considerado (1)
	seguro (1)	reflexão (1)		ativo (1)	
	prática (1)	experiência (1)		inteligente (1)	
	desenrascado (4)	aprendeu com as experiências (1)		prevenido (1)	
	decidida (1)	lógico (1)		preparado (1)	
	preparada (1)			razoável (1)	
	sábio (1)			previsível (1)	
	espertalhão (1)			repetitivo (1)	
				safo (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B8.

Participants' answers to describe the behaviour implicative of the trait hard-worker (positive adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
dedicado (1)	competente (1)	dedicação (2)	dedicado (2)	ambicioso (1)	bom (1)
empenhado (4)	cuidadoso (1)	empenho (4)	diligente (1)	cuidadosa (1)	compromisso (1)
esforçado (3)	determinada (1)	perfeccionismo (4)	empenhado (5)	exigente (3)	empenho (1)
	metódico (1)		esforçada (1)	estudioso (1)	perfeccionismo (1)
	obsessiva (1)			perfeccionista (19)	positivo (1)
	perfeccionista (17)			responsável (3)	procrastinação (1)
	preciosista (1)				
	responsável (1)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants.

Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B9.

Participants' answers to describe the behaviour implicative of the trait ambitious (positive adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
	atenta (1)	ambição (2)		apressado (1)	ambição (1)
	batoteiro (1)	campeão (1)		competitiva (14)	competidora (1)
	competitivo (17)	garra (1)		decidido (1)	deseja muito (1)
	confiante (1)	jogador (1)		dedicada (1)	positivo (1)
	convencido (1)	normal (1)		determinado (2)	
	desonesto (1)	vence-dor (4)		egoísta (1)	
	parva (1)			esforçada (1)	
	persistente (1)			estrategista (1)	
	precavida (1)			Focado (1)	
				focada no objetivo (1)	
				forte (1)	
				imprudente (1)	
				inteligente (1)	
				perfeccionista (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants.

Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B10.

Participants' answers to describe the behaviour implicative of the trait organized (positive adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
	atento (1)	correcto (1)	arrumado (2)	ansioso (1)	apropriado (1)
	bem sucedido (1)	de responsabilidade (1)		cauteloso (2)	conas (1)
	controlado (1)	dedicação (1)		precavido (3)	expectável (1)
	disciplinado (1)	planeador (1)		preparado (1)	muito positivo (1)
	precavido (3)	planeamento (1)		prevenido (4)	norma l (1)
	preparado (3)	prevenção (1)		prudente (2)	pensar em avanço (1)
	prevenida (2)			ready (1)	precaução (1)
	previsto (1)			responsável (3)	
	prudente (1)				
	responsável (7)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants.

Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B11.

Participants' answers to describe the behaviour implicative of the trait wary (positive adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
refletivo (1)	calculista (2)	muito positivo (1)		calculista (3)	calculado (1)
	cautelosa (2)	prudência (1)		Cautelosa (8)	correto (1)
	consciente (1)			consciente (1)	pensado (1)
	cuidadoso (4)			cuidadoso (2)	prudência (1)
	deliberado (1)			equilibrado (1)	
	estrategista (1)			metódica (1)	
	imprudente (1)			não impulsivo (1)	
	inteligente (4)			prudente (2)	
	interessado (1)			racional (1)	
	previdente (1)			responsável (3)	
	prudente (1)			sensato (3)	
	racional (1)				
	responsável (4)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants.

Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table B12.

Participants' answers to describe the behaviour implicative of the trait reflective (positive adult-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
ponderada (8)	calculista (1)	comtemplação (2)	ponderada (8)	calculista (2)	ansiedade (1)
ponderativo (1)	cauteloso (2)	de planejamento (1)	reflexivo (2)	cauteloso (2)	de introspeção (1)
	cuidadoso (2)	normal (2)		consciente (1)	normal (2)
	curiosa (1)	não é espontâneo (1)		cuidadoso (1)	talvez cansaço (1)
	deliberado (1)	preponderante (1)		indecisa (2)	útil (1)
	estrategista (1)			metódico (1)	
	hesitante (1)			preocupado (1)	
	imaginativo (2)			prudente (1)	
	indeciso (1)			responsável (1)	
	introspectivo (1)			sonhador (2)	
	languido (1)				
	nostálgico (1)				
	Prudente (3)				

tímida
(1)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants’ answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Appendix C

Table C1.

Participants' answers to describe the behaviour implicative of the trait curious (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
cusca (1)	interessante (1)	bom (1)	cusco (5)	ambicioso (1)	admirável (1)
interessado (7)		curiosidade (4)	Interessado (16)	estudiosa (1)	interesse (1)
		cuscuvelhice (1)		inteligente (1)	muito positivo (1)
		sede de aprender (1)		interessante (1)	
		superadequado (1)		minucioso (1)	
				observadora (1)	
				prudente (1)	
				regateira (1)	
				sábio (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C2.

Participants' answers to describe the behaviour implicative of the trait caring (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
afetuoso (1)	adorável (1)	arrisca do (4)	afetuos o (1)	adorável (2)	bom (1)
amoroso (3)	amiga (2)	bom (4)	amoroso (1)	afável (2)	compaixão (1)
fofo (2)	amigável (5)	carinhoso (1)	fofo (1)	agradável (1)	cuidador (1)
meigo (4)	amistoso (1)	companheiro (1)	meigo (1)	alegre (1)	dog lover (1)
querida (6)	curioso (2)	perigoso (1)		amigável (5)	perigoso (1)
	despreocupado (1)	positivo (1)		humano (1)	saudade (1)
	destemido (1)			imprudente (1)	
	dócil (1)			inocente (1)	
	gentil (1)			sensível (1)	
	inocente (1)			simpatia (1)	
	preocupado (1)			simpático (2)	
	sensível (1)				
	simpática (2)				
	social (1)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C3.

Participants' answers to describe the behaviour implicative of the trait imaginative (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
criativo (17)	entendedor (1)	avancado (1)	criativo (20)	artístico (1)	admirável (1)
original (1)	fascinante (1)	imaginação fértil (1)	sonhadora (1)	empenhado (2)	artista (1)
sonhador (1)	inteligente (3)	imaginária (1)		inteligente (2)	bom (1)
	motivada (1)	infantil (1)		interessante (1)	escritora (1)
	muito inteligente (1)	maravilhoso (1)		legal (1)	imaginação fértil (2)
	perspicaz (1)	normal (1)			mente aberta (1)
	sofisticada (1)				mente inspiradora (1)
					muito positivo (1)
					surpreendente (2)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C4.

Participants' answers to describe the behaviour implicative of the trait susceptible (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
	inconsciente (1)	aprovação (1)	susceptível (1)	confuso (1)	deslumbramento (1)
		comportamento espelho (1)		descuidado (1)	equivocada (1)
		confia (1)		errático (1)	errado (2)
		criança (1)		idiota (1)	imaturo (1)
		exploração (1)		inseguro (1)	incorreto (1)
		facilmente influenciada (4)		irresponsável (3)	influência (1)
		falta de personalidade (1)		rebelde (1)	prejudicial (1)
		imaturidade (1)			rebeldia (1)
		influenciada (4)			seguidor (1)
		má influência (3)			
		manipulação (1)			
		negativo (1)			
		normal (1)			

pressã
o social (1)

típico
de criança
(1)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C5.

Participants' answers to describe the behaviour implicative of the trait unpredictable (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
instável (4)	assustador (1)	algo aconteceu (1)	errático (1)	assustador (1)	imprevisibilidade (1)
	bipolar (9)	birra (2)	inconstante (3)	bipolar (6)	não conforme (1)
	birrento (1)	depressão (1)	instável (5)	confuso (1)	
	impulsivo (2)	dupla personalidade (1)		descontrolado (1)	
	inesperado (1)	excessivamente emocional (1)		desequilibrado (1)	
	mal humorado (1)	imprevisibilidade (1)		flexível (1)	
	reservado (1)	mau humor (1)		indeciso (1)	
	sensível (1)	não se sabe o que esperar (1)		irracional (1)	
	surpreendente (1)	negativo (1)		misterioso (1)	
		preocupante (1)		perigoso (1)	
		sem autocontrole (1)			

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C6.

Participants' answers to describe the behaviour implicative of the trait distracted (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
desatento (2)	adorável (1)	cabeça de vento (1)	desatento (1)	desastrado (1)	acidental (1)
despistado (1)	apressado (1)	cabeça no ar (1)	despassarada (2)	imprudente (1)	descuido (1)
	desajeitado (2)	cega (1)	despistado (2)		distracção (1)
	descuidado (2)	de distração (2)			falta de atenção (1)
		desatenção (1)			inesperado (1)
		distracção (3)			naba (1)
		inadequado (1)			
		infantil (1)			

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C7.

Participants' answers to describe the behaviour implicative of the trait irresponsible (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
inconse- quente (1)	descuid- ado (2)	adequ- ado à idade (1)	inconse- quente (3)	descuida- da (2)	desobedi- ência (1)
	desobe- diente (1)	desob- ediência (1)		desintere- ssado (1)	falta de responsabilida- de (1)
	distraíd- o (2)	infanti- l (1)		egoísta (2)	perigoso (2)
	egoísta (1)	irresp- onsabilida- de (2)		ignorant e (1)	péssimo (1)
	inocent e (1)	perigo so (2)		imprude- nte (1)	sem noção (1)
	neglige- nte (1)	rebeld- ia (1)		negligent e (1)	
				parvo (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C8.

Participants' answers to describe the behaviour implicative of the trait restless (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
agitada (3)	chato (1)	Comprensível (1)	desassossegado (1)	ansioso (2)	aborrecido (1)
	desagradável (1)	desconforto (1)		desagradável (1)	ansiedade (1)
	desinteressado (1)	desinteressado (1)		desconhecido (1)	de inquietação (1)
	distraído (2)	estranho (1)		Desinteressado (1)	hiperatividade (1)
	elétrico (1)	mal disciplinado (1)		desrespeitoso (2)	infantil (1)
	hiperativo (3)	negativo (1)		egoísta (1)	inquietação (1)
	irresponsável (1)	sem interesse (1)		hiperativo (4)	
	mal educada (1)			inconforme (1)	
	reguila (1)			irritante (2)	
				nervoso (1)	

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C9.

Participants' answers to describe the behaviour implicative of the trait naive (negative child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
crédula (1)	burro (1)	autocontrol (1)	crédulo (1)	burra (1)	boa demais (1)
naive (1)	distraído (1)	compreensível (1)	naive (1)	honesta (1)	bom coração (1)
	influenciável (1)	criança (1)		imprudente (1)	bom fundo (1)
	inocente (12)	infantil (1)		inocente (6)	criança (1)
	parvo (1)	ingenuidade (1)			empatia (1)
		mentira (1)			falta de atenção (1)
					ingenuidade (1)
					muito recorrente (1)
					surpreendente (1)

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C10.

Participants' answers to describe the behaviour implicative of the trait dreamer (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
criativo (2)	ambicioso (2)	adequado (1)	imaginativo (2)	ambicioso (1)	com esperança (1)
fantasioso (1)	determinado (1)	ambicioso (1)	irrealista (1)	ansioso (1)	expectável (1)
imaginativo (2)	objectiva (1)	ansiedade (1)		esperançoso (2)	ilusório (1)
irrealista (1)	pouco ambicioso (1)	bom (1)		focada (1)	imaginação (1)
visionária (2)		garantia (1)		iludido (1)	previsão (1)
		imaginado (1)		otimista (1)	
		normal (3)		refletivo (1)	
		sonhar (1)			

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C11.

Participants' answers to describe the behaviour implicative of the trait adventurer (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
exploradora (2)	corajosa (1)	bom (1)	desbravador (1)	agradável (1)	aventura (1)
radical (2)	curioso (3)	desoberta (1)	exploradora (2)	ambicioso (1)	demasiado velho (1)
	destemida (2)	diversão (1)		corajosa (1)	estima elevada (1)
	dinâmico (1)	emoção (1)		curioso (1)	gosta viver (1)
	divertido (1)	jovem (1)		entusiasmante (1)	jovem (1)
	enérgica (1)	mente aberta (1)		impetuosos (1)	libertador (1)
	entusiasmada (1)	muito positivo (1)		irreverente (1)	
	inteligente (1)	saudável (1)		rebelde (1)	
	sábio (1)	vivacidade (1)			

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Table C12.

Participants' answers to describe the behaviour implicative of the trait funny (positive child-stereotypical trait) per actor

Child Actor			Adult Actor		
Related Traits	Other Traits	Non-Traits	Related Traits	Other Traits	Non-Traits
cômico (1)	alegre (3)	instinto (1)	brincalhona (1)	animado (1)	arrogância (1)
divertido (4)	animado (1)	muito positivo (1)	cômico (2)	assertivo (1)	atrevimento (1)
	bem-disposto (1)	normal (2)	divertido (7)	atrevido (1)	bom (1)
	comunicativo (1)	ousado (1)		bem humorada (1)	certeiro (1)
	confiante (1)	positivo (1)		comunicativo (1)	integrador (1)
	criativo (1)	revelador (1)		inteligente (4)	normal (1)
	esperta (2)			sharp (1)	surpreendente (1)
	extrovertido (1)			social (1)	
	fresco (1)			sociável (1)	
	inteligente (5)				
	sociável (1)				
	valiente (1)				

Note. Numbers in parenthesis stand for the number of times a word was used by different participants. Participants' answers are in Portuguese (language in which the study was conducted) as meaning can be lost in translation.

Appendix D

Table D1.

*Differences in proportions by percentage of participant's non-trait answers for each trait-
implying behaviour per actor*

Type of trait	Adult		Child		p
	%	n	%	n	
<i>Adult-stereotypical Positive</i>	24%		29%		.175
Organizado	34%	41	44%	45	.329
Ponderado	39%	44	29%	41	.363
Trabalhador	9%	43	7%	46	.626
Pensativo	26%	47	32%	44	.507
Ambicioso	21%	42	30%	44	.389
Experiente	16%	44	36%	42	.035
<i>Adult-stereotypical Negative</i>	28%		34%		.089
Falso	56%	43	50%	46	.583
Interesseiro	50%	48	57%	42	.498
Solitário	39%	44	43%	46	.641
Aborrecido	4%	47	18%	45	.037
Forreta	15%	41	31%	45	.071
Materialista	4%	48	7%	43	.557
<i>Child-stereotypical Positive</i>	35%		38%		.481
Sonhador	47%	43	64%	44	.108
Aventureiro	47%	47	60%	42	.230
Curioso	60%	42	30%	47	.005
Engraçado	33%	46	31%	42	.868

Imaginativo	19%	42	13%	45	.469
Carinhoso	10%	48	35%	43	.005
<i>Child-stereotypical Negative</i>	46%		54%		.067
Distraído	53%	43	70%	44	.103
Influenciável	47%	45	55%	44	.457
Irresponsável	60%	43	60%	45	.965
Irrequieto	52%	46	48%	44	.673
Ingénuo	44%	43	55%	44	.334
Imprevisível	21%	43	38%	42	.083

Note. n = total number of given answers

Table D2.

*Differences in proportions by percentage of participant's non-trait answers for each trait-
implying behaviour per actor*

Type of trait	Adult		Child		<i>p</i>
	%	n	%	n	
<i>Adult-stereotypical Positive</i>					.436
Organizado	15%	41	16%	45	.905
Ponderado	5%	44	10%	41	.349
Trabalhador	16%	43	13%	46	.666
Pensativo	15%	47	14%	44	.864
Ambicioso	19%	42	9%	44	.183
Experiente	20%	44	14%	42	.451
<i>Adult-stereotypical Negative</i>					.022
Falso	21%	43	17%	46	.671
Interesseiro	13%	48	17%	42	.575
Solitário	23%	44	15%	46	.363
Aborrecido	30%	47	9%	45	.012
Forreta	27%	41	18%	45	.312
Materialista	29%	48	19%	43	.240
<i>Child-stereotypical Positive</i>					.391
Sonhador	23%	43	11%	44	.142
Aventureiro	19%	47	14%	42	.541
Curioso	19%	42	6%	47	.070
Engraçado	15%	46	17%	42	.853
Imaginativo	14%	42	24%	45	.232
Carinhoso	13%	48	14%	43	.838

<i>Child-stereotypical Negative</i>					.002
Distraído	26%	43	14%	44	.160
Influenciável	51%	45	23%	44	.006
Irresponsável	19%	43	13%	45	.499
Irrequieto	15%	46	14%	44	.831
Ingénuo	14%	43	20%	44	.422
Imprevisível	28%	43	5%	42	.004

Note. n = total number of given answers

Appendix E

Percentage of participants' clustered answers by stereotypicality, valence, and actor

Type of trait	Child				Adult			
	ET	RT	OT	NT	ET	RT	OT	NT
Positive adult-stereotypical	24%	7%	54%	15%	29%	9%	49%	13%
Organizado	34%	0%	51%	15%	44%	4%	36%	16%
Ponderado	38%	2%	55%	5%	29%	0%	61%	10%
Trabalhador	9%	19%	56%	16%	7%	20%	61%	13%
Pensativo	26%	19%	40%	15%	32%	23%	32%	9%
Ambicioso	21%	0%	60%	19%	30%	0%	61%	14%
Experiente	16%	2%	61%	20%	36%	5%	45%	13%
Negative adult-stereotypical	28%	11%	37%	24%	34%	13%	37%	16%
Falso	56%	14%	9%	21%	50%	9%	24%	17%
Interesseiro	50%	6%	31%	13%	57%	12%	14%	17%
Solitário	39%	0%	39%	23%	43%	2%	39%	15%
Aborrecido	4%	21%	45%	30%	18%	24%	49%	9%
Forreta	15%	10%	49%	27%	31%	9%	42%	18%
Materialista	4%	17%	50%	29%	7%	23%	51%	19%
Positive child-Stereotypical	35%	22%	25%	17%	38%	24%	24%	14%
Sonhador	47%	19%	12%	23%	64%	7%	18%	11%
Aventureiro	47%	9%	26%	19%	60%	7%	19%	14%
Curioso	60%	19%	2%	19%	30%	45%	19%	6%
Engraçado	33%	11%	41%	15%	31%	24%	29%	17%
Imaginativo	19%	45%	21%	14%	13%	47%	16%	24%
Carinhoso	10%	33%	44%	13%	35%	9%	42%	14%
Negative child-Stereotypical	46%	5%	23%	25%	54%	8%	23%	15%
Distraído	53%	7%	14%	26%	70%	11%	5%	14%
Influenciável	47%	0%	2%	51%	55%	2%	20%	23%
Irresponsável	60%	2%	19%	19%	60%	7%	20%	13%
Irrequieto	52%	7%	26%	15%	48%	2%	36%	14%
Ingénuo	44%	5%	37%	14%	55%	5%	20%	20%
Imprevisível	21%	9%	42%	28%	38%	21%	36%	5%

Note. ET = expected trait; RT = related traits; OT = other traits; NT = non-traits.