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The role of gender on the frequency of shopping with friends during adolescence: Between the need for individuation and the need for assimilation

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Abstract
Very little is known about identity mechanisms underlying shopping with friends during adolescence. A quantitative study \((N_{\text{total}} = 614)\) shows that the frequency of shopping with friends relies on a balance between desires for individuation (i.e. autonomy from mother) and social approbation (i.e. susceptibility to normative and informative influence from friends). Our results show that gender moderates these mechanisms: the autonomy from mother is a key variable of shopping with peers for adolescent boys, whereas the susceptibility to peers’ normative and informative influence is a key variable for adolescent girls.

Keywords
autonomy, gender, peer influence, self-esteem, shopping, teenage consumer

Introduction
Among the 5.2 million young people aged 12–18 years in France, (INSEE, 2011), many attend shopping outlets on Saturday afternoons. In the presence of their group of friends, they lend themselves to fittings and joint purchases and become true ambassadors of the brand. In current marketing practices, teenagers are considered a target in its own right: they are dedicated to specific brands (Urban Decay at Sephora for example), boutiques (e.g. Bershka, which belongs to the Inditex group, which owns, among other assets, the Zara brand) or magazines (e.g. Julie, Jeune et Jolie, Geo Ado, etc.). Businesses view adolescents as an important segment with real purchasing power. Teenagers receive on average some €50 to €60 pocket money per month (CSA, 2012) and one in four has a debit

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card (Teen Research Unlimited, 2011). Though teenagers are privileged customer targets, retailers find it difficult to grasp the complexity of young consumers’ motivations. Teenagers are hard-to-pin-down customers because, as consumers, they have different consumption characteristics: they adopt a volatile attitude from brands (Noble et al., 2009); they master the fundamentals in terms of promotions (Fosse-Gomez, 2011) or often go shopping with friends, rather than alone or with their families (Breazaele and Lueg, 2011). Today, brands have realized the importance of teenagers’ shopping with friends and are determined to break into this market. Hence the need to identify the mechanisms underlying shopping with friends behaviors and understand the role played by gender in these mechanisms.

Most of the work on adolescent consumer1 has focused on the socialization of adolescents (John, 1999), their influence on family decisions (Beatty and Talpade, 1994) or their relationships with the brand (Auty and Elliott, 2001). Despite these studies, hardly any academic research has been done on teenagers’ shopping with friends (Gentina et al., 2012; Haytko and Baker, 2004; Zouari, 2010). This research prime objective is to model the identity mechanisms underlying adolescents’ frequency of shopping with friends. More specifically, identity aims to satisfy both a need for individuation and a need for social assimilation (Brewer, 1991). The originality of this article is to study the combined effect of individual and social processes during teenagers’ empowerment in order to explain the frequency of shopping with friends. The need for autonomy from the family and the need to search for information and peer approval underlie the assimilation and differentiation mechanisms at work in the frequency of shopping with friends.

Adolescence is an important period of identity construction, and the gender dimension has rarely been addressed in the literature on adolescent marketing. Most research to date does not distinguish male from female adolescents. Some studies include only male teenagers or, even more often, female teenagers exclusively (Haytko and Baker, 2004; Marion, 2003; Yalkin and Elliott, 2006; Zouari, 2010), and justify this choice with differences in consumption without, however, ever attempting to contrast them. Therefore, in these studies, gender appears rather as a biological fact than as a marketing research topic in its own right, even while the new ‘gender studies’ are looking to explore the foundations for the development of gender through consumption (Ulrich and Tissier-Desbordes, 2013). The second objective of this research is to show that different individuation and social assimilation mechanisms vary according to gender, in accordance with the differences found between girls and boys in the construction of their identities.

Theoretical framework

Guindon (2001) and Neyrand’s (2004) work distinguishes three areas of teenagers’ identity affirmation that mostly affect aspects of their biological, emotional and social lives:2

- the area of bodily changes during puberty, which affect the degree of self-esteem;
- the area of self-assertion towards a ‘more independent’ self; more liberated from parents, which is reflected in self-empowerment;
- the area of social relations with the peer group where, through the peer identification process, teenagers betray their desire for approval and information.

Below are adolescents’ three detailed spheres of identity development, namely self-esteem, need for autonomy and susceptibility to peer influence.

Adolescence: A critical period in building self-esteem

Adolescence is a critical step in redefining oneself, which generates significant physical and psychological changes. Such changes turn that period into one marked by an identity crisis (Erikson, 1968). During adolescence, the physical self is crucial and bodily transformations are swift and usually perceived as incomplete (Marion, 2003). This is a period usually identified with feelings of unease and self-doubt; during adolescence, self-esteem – relatively high during childhood – tends to drop (Chabrol et al., 2004, Dorard et al., 2013; Dupras and Bouffard, 2010; Guilhon and Crocq, 2004). These significant personality changes in adolescence not only affect the level of self-esteem but
also relationships with family and peers. To build up their personalities, teenagers are torn between the desire to mark their individualities (need for individuation) and willingness to identify with a peer group (need for social assimilation) (Piacentini, 2010). One of the key dilemmas that adolescents must resolve is achieving a balance between individuation and assimilation (Brewer, 1991).

Adolescence: Straddling the need for individuation and the need for social assimilation

The need for individuation: The necessary empowerment towards autonomy from mother. Personal identity is characterized by a need for individualization (Taylor, 1992). Adolescence is the period in life when personal identity is being constructed: adolescents seek to empower themselves from their families (Grotevant and Cooper, 1985; Hill and Holmbeck, 1986).

But what exactly is meant by autonomy when dealing with adolescence? There is no easy answer. Work in marketing pays increasing attention to the notion of adolescents’ autonomy, without always making sure it is formally defined and measured (Haytko and Baker, 2004; Noble et al., 2009; Nuttall and Tinson, 2008; Palan et al., 2010). It is awkward because many other terms have been developed to evoke the notion of autonomy (‘distancing’, ‘individuality’ and ‘freedom’), without a single definition emerging. Marketing research has focused on various fields of application of empowerment/autonomy such as pocket-money management (Lueg et al., 2006) or deviant behavior analysis (Bristol and Mangleburg, 2005). The concept of autonomy is thus indirectly mobilized without being defined: first, pocket money gives adolescents a degree of financial autonomy, and, second, deviant behaviors are primarily a means for adolescents to assert their independence from parents.

The concept of autonomy is particularly pregnant in psychological literature, which acknowledges autonomy as a fundamentally relevant topic to understand adolescence. Research in developmental and social psychology has explored autonomy as an emotional and natural separation that does not, for all that, require deep and radical separation from parents (Anderson et al., 1994; Ryan and Lynch, 1989). This work highlights that the need for adolescents to have a secret garden or to form their own different opinions and views from parents characterizes autonomy-seeking adolescents (Steinberg and Silverberg, 1986). Kerns and Stevens (1996) emphasize how important it is to study the quality of relationships with mother and father separately. Either of these relationships has a different influence on adolescents’ development. Teens communicate more frequently with mothers than they do with fathers (Broderick, 1993; Claes, 1998; Montemayor and Brownlee, 1987; Papini et al., 1991). Mother is usually the parent who is more available and closer to adolescents (Collins and Russell, 1991; Gavin and Furman, 1996). With their fathers, teenagers tackle specific topics such as rules of discipline, academic achievement or instrumental tasks. The themes addressed with mothers are more varied and relate to social and personal problems of adolescents’ lives in general (Montemayor and Hanson, 1986). This is why we only study empowerment from mother, as she is the one person in the family that proves to be the strongest emotional focal point (Geuzaine et al. 2000; Mayseless et al., 1998). In adolescence, mother is the primary attachment figure (Bowlby, 1958) and the most important socialization instrument (Bakir and Rose, 2006; Ladwein et al., 2009). Focusing on mother is particularly relevant when it comes to studying adolescents’ consumption, as she is usually responsible for the purchase of children’s products (clothes, toys, school supplies …); therefore, adolescents will seek to overcome her presence and influence (Carlson et al., 1992; Carlson, Grossbart and Walsh, 1990). One way to achieve this is to search for information and advice by actively joining a peer group. As evidenced by numerous studies in psychology (Brewer, 1991; Tajfel and Turner, 1986), personal identity thus appears inseparable from social identity.

The need for social assimilation: A necessary quest for approval and information within the peer group

Teenagers build their social identity by approaching new socialization agents: their peers (Marion, 2003). The peer group becomes particularly important in adolescence during the first attempts at empowerment from parents: it provides a framework and a
system of values to replace childhood standards (Lutte, 1988). The peer group is a place of socialization: adolescents learn to fend for themselves without their parents’ help, by imitating their fellow-teenagers (Ezan, 2007). The peer group also functions as children’s preferred catalyst for identification: the group socializes the child and the child identifies with it (Derbaix et al., 2005). Many teenagers actively seek to belong to a peer group (Auty and Elliott, 2001; Yalkin and Elliott, 2006) and acquire a social identity (Badoui et al., 2007, 2012).

Peer group integration involves a process of submission to peers’ influence. Interpersonal influence – between two individuals – has already been widely highlighted in consumer behaviors by researchers such as Park and Lessig (1977) and more recently by Bearden et al. (1989). The latter (1989: 474) showed two types of influence coexist: normative influence, which is to ‘identify oneself or enhance one’s image in the eyes of other people previously deemed relevant, through the acquisition and use of the same products or willingness to comply with others’ expectations regarding purchase decisions’; and informative influence: it refers to ‘the tendency to learn about products by seeking information through conversations and/or observation of others’. Several studies have shown that peer influence proves to be an important phenomenon during adolescence: while parental influence decreases, peer influence – of the normative and informative types – increases throughout adolescence (Bachmann, John and Rao, 1993; Childers and Rao, 1992; Muratore, 2006). This trend is particularly noticeable in the area of consumption, because of its social dimension in adolescence (Badaoui et al., 2012; Mascarenhas and Higby, 1993).

Shopping with friends – a response to a specific teenage duality: Individuation versus social assimilation

Marketing research has shown that consumption accompanies transitions (Schouten, 1991) and plays a particularly important role in adolescence to facilitate transitioning from child to adult status (Fabricant and Gould, 1993). Products, whether purchased or consumed, are a necessary support to adolescents’ identity construction (Marion, 2003): they enable them to put forward their own personality and express their identity within the group (Chaplin and John, 2005). Teens buy products that meet their needs for individuation and social interactions, differentiation and integration, and finally personalization and group membership (Chan et al., 2012; Derbaix and Leheut 2008). According to Auty and Elliott’s study (2001), the need to be approved or liked by peers proves to be a more important factor in the selection of brands and products than the need for self-expression. When conforming to consumption codes, teenagers are more motivated by conformity and peer approval than by asserting their identity (Derbaix and Leheut, 2008).

Recent marketing research work shows that beyond purchased or consumed products, consumption activities experienced in a group contribute to adolescents’ behavioral development since, during the construction of their identity, they will be emancipated from parental care (Nuttall and Tinson, 2008). So, going out with friends, listening to music together, deciding on how to spend the weekend or choosing clothes, gradually promotes autonomous social life appropriation (Palan et al., 2010). Among these activities, several studies have pointed out that shopping with friends is the anchor that allows teenagers to interact with peers, create new social relationships and forge a social identity (Haytko and Baker, 2004; Yalkin and Elliott, 2006). Shopping is a social, fun and enjoyable group activity that is part of adolescents’ identity development process (Fosse-Gomez, 2011; Zouari, 2010). Research has favored a group approach of shopping to the detriment of the role and importance of individual processes occurring during this activity (Badaoui, 2009; Badaoui et al., 2012). As indicated by Chan et al. (2012), incorporating within the same model social and individual processes makes it possible to better understand how individuation and social assimilation mechanisms can explain consumption behaviors. In this research, we postulate the existence of a chain mediation induced by individuation (i.e. autonomy from mother) and social assimilation (i.e. susceptibility to peers’ normative and informative influences) mechanisms, which accounts for the frequency of shopping with friends.
The role of gender on the frequency of teenagers’ shopping with friends

Transition periods of life, such as adolescence, result in identity reconstruction being heavily dominated by gender stereotypes (Bauer, 2007; Ulrich and Tissier-Desbordes, 2013). Numerous studies in social psychology have focused on the development of teenagers’ sexual identity (Dafflon-Novelle, 2006; Le Maner-Idrissi, 1997). Teenagers have very different ways of functioning, referring to sexual role identity or gender identity (Ulrich and Tissier-Desbordes, 2013). Psychological research has emphasized that boys are socialized according to an ‘agentic’ orientation – an approach that focuses on assertiveness and individuation. Girls, meanwhile, rather tend to follow a community orientation (communion) – an approach that focuses on altruism and concern for others (Bakan, 1966).

Gender has rarely been addressed in the study of teenagers’ shopping behaviors. Zouari’s research (2010) or Haytko and Baker’s (2004) and Yalkin and Elliott’s (2006) only include groups of girls and fail to study the role of gender to account for the different mechanisms underlying shopping with friends. This shortfall is highlighted by Zouari (2010) and Haytko and Baker (2004), who specify, in their own areas of research, the need to broaden and deepen the study of shopping with friends behavior with a representative sample of boys. Presumably, such relative lack of studies results from the as yet embryonic state of conceptualizing the central notion of teenagers’ autonomy (Palan et al., 2010). As for belonging to a peer group, the impact of gender on susceptibility to peer influence led to mixed results: some authors have emphasized the differences between girls and boys regarding their quest for social approval (Rose et al., 1998), while others point to a lack of differences (Auty and Elliott, 2001). The effect of gender on autonomy from mother and susceptibility to peer influence yet remains to be cleared (Yalkin and Elliott, 2006).

Conceptual model and hypotheses

First, we focus on teenagers’ self-redefinition by measuring the impact of self-esteem on their susceptibility to normative peer influence. Second, we model the psychological mechanisms underlying the frequency of shopping with friends, by studying how needs for individuation (i.e. autonomy from mother) and for social assimilation (i.e. susceptibility to peers’ normative and informative influences) can explain the frequency of shopping in the presence of peers. We postulate that part of the relationship between autonomy and frequency of shopping with friends is mediated, in a chain, by adolescents’ susceptibility to normative and informative types of influences by peers (see Figure 1).

Our goal is to highlight the moderating role of the adolescent’s gender on all of these relationships, as illustrated in Figure 2.

Self-esteem as an antecedent to susceptibility to normative peer influence

Several notions of self-esteem have been adopted in social psychology literature. Rosenberg (1965)
shows the importance of social performance, personal merit and physical appearance, while Coopersmith (1967) emphasizes feelings of competence and power. Beck (1967), meanwhile, stresses the importance of the personal interpretation of life events. Three main theoretical currents from psychology have addressed self-esteem: the dispositional, the situationist and the interactionist trends. Each of these suggests a distinct concept of self-esteem (Fortes, 2003). From a methodological standpoint, they raise the issue of the dimensionality of the self-esteem concept. While seminal work in psychology emphasizes its overall and one-dimensional character (Coopersmith, 1967; Rosenberg, 1965), others emphasize the dynamic and multidimensional perspective of self-esteem (Harter, 1988; Marsh et al., 1998). Table 1 presents an overview of these concepts and measurements of self-esteem conducted with adolescents, as well as articles in social psychology and marketing that refer to it.

In this research, we take Rosenberg’s (1965) approach of self-esteem, which is used extensively in various marketing research works on adolescents (Benmoyal-Bouzaglo and Guiot, 2013; Chaplin and John, 2010; Rose et al., 1998; Yang and Laroche, 2011). Self-esteem, as Rosenberg sees it (1965: 7), is defined as ‘the totality of individual thoughts and feelings that refer to oneself as an object’. Self-esteem, in this perspective, is ‘an indicator of acceptance, tolerance and personal satisfaction with self, while excluding feelings of superiority and perfection’ (Vallières and Vallerand, 1990: 306).

Life’s early years are important in building self-esteem (Guillon and Crocq, 2004). In particular, adolescence is a period in life when self-esteem is often fragile (Guiot, 2000; Robins et al., 2002). The group can overcome such low self-esteem to the extent that it provides adolescents the safety they need (Weiss and Ebbeck, 1996). Adolescents with low self-esteem tend to have less confidence in their own judgment and more often tend to seek approval from their peers by joining a group and adopting the group’s standards (Hartman and Kiecker, 1991). The oldest (Bearden et al., 1989; Rose et al., 1998) as well as the most recent research (Yang and Laroche, 2011) shows that low self-esteem has a negative effect on the normative dimension of susceptibility to peer influence in adolescence. In accordance with these earlier studies, we propose the following hypothesis:

\[
H_{1a}: \text{The greater the adolescent’s self-esteem, the less sensitive he/she is to normative peer influence.}
\]

Marketing researchers have not examined whether gender has a moderating role on the relationship between self-esteem and susceptibility to peers’ normative influence, but psychological research has revealed differences in physical or social self between girls and boys. These works present conflicting results, probably related to the theoretical and methodological controversies about self-esteem (Byrne, 1996). While some studies do not report gender-induced differences in physical self-esteem (Jamieson, 2007), others have shown that boys show higher self-esteem than girls. Boys perceive their bodies as a source of power (Block and Richins, 1992; Harter, 1993; Stephens et al.,

![Figure 2. Moderating role of gender.](image-url)
<table>
<thead>
<tr>
<th>Nature</th>
<th>Process</th>
<th>Functioning</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispositional view</td>
<td>Personality trait</td>
<td>Introspective</td>
<td>Level (low vs high)</td>
</tr>
<tr>
<td>Situationist view</td>
<td>Stable</td>
<td>Contextual</td>
<td>Level (low vs high)</td>
</tr>
<tr>
<td>Interactionist view</td>
<td>Both</td>
<td>Adaptable (basic line accompanied with situational variations)</td>
<td>Standard deviation (instability = calculation of the standard deviation in individual and daily self-esteem scores)</td>
</tr>
</tbody>
</table>

### Nature
- Personality trait
- State

### Process
- Stable
- Instable (varies according to the environment)

### Functioning
- Introspective
- Contextual

### Changes
- Level (low vs high)

## Use of various self-esteem scales with adolescent populations

### Unidimensional measure of self-esteem

<table>
<thead>
<tr>
<th>Measuring scale</th>
<th>Number of items and contents</th>
<th>Authors using the scale with adolescent populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem's scale (Rosenberg, 1965)</td>
<td>Ten items</td>
<td>In psychology: Barber et al. (1992); Birndof et al. (2005); Chabrol et al. (2004); Guillon and Crocq (2004); McMullin and Cairney (2004) In marketing: Gentina (2008); Benmoyal-Bouzaglo and Guiot (2013); Chaplin and John (2010); Rose et al. (1998); Yang and Laroche (2011)</td>
</tr>
<tr>
<td>Self-Esteem Inventory (Coopersmith, 1967, 1984)</td>
<td>58 items Four sub-scales (academic or professional; social; family; general)</td>
<td>In psychology: Allen et al. (1994)</td>
</tr>
</tbody>
</table>

### Multidimensional measure of self-esteem

<table>
<thead>
<tr>
<th>Measuring scale</th>
<th>Number of items and content</th>
<th>Authors using the scale with adolescent populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Perception Profile (Harter, 1988)</td>
<td>36 items Nine dimensions (looks; academic and sports skills; social integration; vocational skills; ‘romanticism’; behavior; friendships; overall self-value)</td>
<td>In psychology: Guillon and Crocq (2004) In marketing: Gentina (2008); Guiot (1999, 2000)</td>
</tr>
<tr>
<td>Self-Description Questionnaire-I (SDQ-I. Marsh et al. 1998)</td>
<td>32 items Eight dimensions (general self-esteem; family; social; mathematical; looks; reading; physical and academic skills)</td>
<td>In psychology: Abdolmaleki et al. (2011); Dishman et al. (2006) In marketing: Yang and Shaninger (2010)</td>
</tr>
</tbody>
</table>

(Continued)
Use of various self-esteem scales with adolescent populations

<table>
<thead>
<tr>
<th>Measuring scale</th>
<th>Number of items and content</th>
<th>Authors using the scale with adolescent populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Tennessee Self-Concept Scale’ (TSCS) (Fitts and Warren, 1996)</td>
<td>100 items Five dimensions of self-esteem (social; physical; ethical; individual; family)</td>
<td>In psychology: Guillon and Crocq (2004); Hoffman et al. (1988); Lund et al. (1981); Sangeeta and Sumitra (2012)</td>
</tr>
<tr>
<td>The ‘Culture-free-Esteem Inventory For Children (Battle, 1981)</td>
<td>60 items Four dimensions (general; schooling; parents; and friends)</td>
<td>In psychology: Guillon and Crocq (2004); Holaday et al. (1996)</td>
</tr>
<tr>
<td>Measuring scale of the conditions of self-esteem with adolescents (EMCESA) (Dupras and Bouffard, 2010)</td>
<td>10 items. Five domains (social acceptance; sports skills; body weight; academic success; and looks)</td>
<td></td>
</tr>
<tr>
<td>The ‘Feeling of Inadequacy Scale’ (Janis and Field, 1959)</td>
<td>23 items Five sub-scales (academic and social skills; self confidence; looks; self respect)</td>
<td>In psychology: Houston (1984); Kawash (1982) In marketing: Breazeale and Lueg (2011); Darley (2011)</td>
</tr>
</tbody>
</table>
1994) while girls feel negative perceptions of the physical changes occurring during puberty, which contributes to dissatisfaction with their body image (Birndorf et al., 2005; Heatherton, 2001). The desire to be socially recognized (social self) is another prominent element inducing low self-esteem in adolescence. While some studies do not report gender-induced differences in social self-esteem among adolescents (Pyryt and Mendaglio 1994; Rinn, 2006), others have shown that girls, more than boys, rely on the way others feel about them to construct their own identity (Cox and Dittmar, 1995). Girls set greater store than boys by other people's perceptions of them and derive much of their self-esteem from positive assessment by peers (Ninot et al., 2000; Schwalbe and Staples 1991; Stein et al., 1992). They face greater pressure than boys about their image (Borges, 2011; Richins, 1991). This makes it possible to formulate the following hypothesis of moderation by gender:

**H1b:** The negative relationship between self-esteem and susceptibility to peer normative influence is higher among girls than boys.

**Needs for individuation and social assimilation as antecedents to the frequency of shopping with friends**

**Need for individuality and frequency of shopping with friends.** Adolescence is a period of profound change, both social and biological, during which the young gradually move away from their own families, especially mother, and build a more personal world, separate from their parents, by integrating into a new group: the peer group (Marion, 2003). Thus, time spent with parents decreases in favor of time spent interacting with the peer group (Bachmann et al., 1993). Teenagers, while taking their autonomy, build their own social world outside the family circle. Unlike children, who usually entertain their friends at home, teenagers try to escape parental control and meet friends in places other than home. As specified by Claes (2005), meeting with friends opens them to the world outside. Shopping with friends is an important and structuring activity during adolescence because it overcomes family ascendancy (Mangleburg and Brown, 1995; Palan et al., 2010). Shopping in a peer group appears as a privileged terrain of adolescents’ autonomy (Haytko and Baker, 2004; Noble et al., 2009). This results in the following assumption:

**H2a:** the more autonomous from mother adolescents are, the more they shop in the presence of peers.

Individuals receive different forms of socialization according to gender. In the absence of marketing work, psychology (Bakan, 1966) and sociology (Lindsey, 2011) research shows that boys construct their identity independently from others, while girls construct their identity in interaction with others. Thus, teenage girls are less autonomous than boys from their parents, especially from mother (Gavin and Furman, 1996; Kerns et al., 1996). Gender-specific parental socialization practices may also explain that difference in autonomy (Lindsey, 2011; Rouyer et al., 2010). Indeed, mother tends to have more control over her daughter’s behavior than on her son’s, which results in a lower degree of autonomy in girls than in boys (Hill and Lynch, 1983). In the context of consumption, it has been shown that boys value consumption rather as a way to express their individualities, while girls see it more as an opportunity to interact with peers (Cox and Dittmar, 1995). This results in the following hypothesis of moderation by gender:

**H2b:** The relationship between autonomy from mother and the frequency of shopping with peers is higher among boys than among girls.

**Need for social assimilation and frequency of shopping with friends**

The peer group is especially important during adolescence because it provides significant support in the process of empowerment from parents (Lutte, 1988). Hence, adolescence marks a center of gravity shift in an individual’s life: while children are primarily confined to the family circle, teenagers are looking to move away from their parents and join a peer group, where they adopt the group’s norms (Bogenschneider et al., 1998; Steinberg and Silverberg, 1986). By joining a group and conforming to group norms, teenagers build up their social
identity. It has been shown that adolescents’ autonomy from their parents is manifested by a higher susceptibility to peer normative influence (Palan et al., 2010). Normative influence is based on the standards established by the group (Bearden et al., 1989). Teenagers are sensitive to normative influence and tend to conform to peer group members’ expectations, so as to be accepted and judged positively by them (Goodrich and Mangleburg, 2010). Based on LaTour and Manrai’s work (1989), the two types of influence – normative and informative – are interrelated and self-reinforcing. Several studies have shown that an individual, faced with a social risk, tends to try to reduce it by seeking information from credible sources (Price and Feick, 1984). During adolescence, we assume that individuals seek a maximum of information with their peer group, which they deem credible and consider as the norm. This quest for information from peers may reassure teenagers on the correctness of their decisions when shopping in the presence of peers (Haytko and Baker, 2004; Mangleburg et al., 2004).

We hypothesize two chain mediations:

**H3a:** The relationship between autonomy from mother and the frequency of shopping with peers is mediated sequentially by adolescents’ susceptibility to peer influence of normative and informative types.

Studies in psychology have shown that girls tend to perceive mother as the primary attachment figure, before peers or other close adults (O’Koon, 1997). Boys, meanwhile, are more autonomous from mother (Gavin and Furman, 1996). Girls are more dependent on mother, therefore, when they distance themselves from mother, girls more actively seek recognition by another group to feel reassured: the peer group (Guindon, 2001; Lutte, 1988). The peer group is, in fact, adolescents’ main social reference in terms of personal support and identification (Ezan, 2007). On the basis of previous developments, we propose the following hypothesis of moderation by gender:

**H3b:** The relationship between autonomy from mother and susceptibility to normative peer influence is stronger in girls than in boys.

Work in psychology and sociology suggests a male culture centered on assertiveness and individuality, while female culture would rather promote the need for social approval and compliance (Bakan, 1966; Chafetz, 2006; Lindsey, 2011). Work in marketing has also shown that girls are more susceptible to the normative (Rose et al., 1998) and informative dimensions (Auty and Elliott, 2001; Phillips and Pittman, 2007; Swinarski et al., 2010) of peer influence. Thus, unlike boys, girls are concerned with what others think of them and tend to seek information from their peers to be reassured about their own purchasing decisions. This leads to the following hypothesis of moderation by gender:

**H3c:** The relationship between susceptibility to normative peer influence and susceptibility to informative peer influence is stronger in girls than in boys.

Marketing research has pointed out that women do not attribute the same meaning to shopping as men do. Men focus on the functional aspects of shopping (self-centered) while women attach more importance to social issues (focusing on others) (Jackson et al., 2011; Raajpoot et al., 2007, Tissier-Desbordes and Kimmel, 2002). The communitarian trait, characteristic of female behavior, explains why girls need to search for information from their peers before buying. They are therefore more susceptible than boys to informative peer influence (Cleveland et al., 2003; Phillips and Pittman, 2007; Swinarski et al., 2010). This results in the following hypothesis of moderation by gender:

**H3d:** The relationship between susceptibility to peer informative influence and frequency of shopping with peers is stronger in girls than in boys.

**Methodology and results**

**Data collection**

We conducted three quantitative studies, whose objectives and main characteristics are summarized in Figure 3.

The questionnaires were self-administered in classrooms, in the presence of the researcher, with
641 adolescents aged 13–18 years from 12 schools in the northern region. The first two samples \((n_1 = 156, n_2 = 182)\) were used to establish the reliability and validity of measurements, and the final sample \((n_3 = 303)\) was used to test the conceptual model proposed in the research. The socio-demographic characteristics of these three samples are presented in Appendix 1.

**Operationalization of variables and measurements**

To measure self-esteem, we use the French version of the Rosenberg scale (1965) translated and validated by Vallières and Vallerand (1990). This scale shows satisfactory levels of reliability and validity with adolescents. To measure susceptibility to peer influence, we used the Bearden et al. (1989) scale of susceptibility to interpersonal influence. This scale has two dimensions: the informative dimension, which refers to the need to search for information on products through conversation and/or observation of others; and the normative dimension, which relates to the need to comply with others. This scale is in English, and the work of translation / back-translation was performed by two bilingual researchers (French-speaking English nationals living in France): translation from English to French by the first researcher and retranslation into the original language by the second (Mayer, 1980) (Appendix 2). As for measuring the frequency of shopping in the presence of peers, we proceeded in two stages. First, semi-structured interviews were conducted with 10 adolescents, who were asked to answer the following question: ‘What are the purchasing and everyday life behaviors that best represent what teenagers do today in the presence of their friend(s)?’ The qualitative study enabled us to list 15 buying- and life-behaviors associated with adolescence. In a second step, a quantitative study of 156 adolescents was conducted. Behaviors socially related to ‘what a teenager does today’ are social representations. We have identified adolescents’ core behaviors using the tool developed by Michel (1999) and described in Appendix 3. Among these 15 behaviors, only four core ones were selected that refer to shopping activities with friends. The frequency of these four behaviors was measured using a five-point scale. Finally, researchers in psychology emphasize the need for adolescents to achieve autonomy from parents. However, the measures they propose (Anderson et al, 1994; Steinberg and Silverberg, 1986) rather seek detachment, understood as a radical break with parents (Beyers et al., 2005; Ryan and Lynch, 1989) while our view of autonomy is rather a process of...
progressive distancing from mother. Autonomy, as we define it, is the ability of adolescents to move away from mother from an emotional point of view. As highlighted by Shouval et al. (1977), adolescents’ autonomy is tricky to measure with an all-encompassing measuring instrument including ‘general’ items that teens might be hard put to understand. Instead, autonomy deserves to be measured in terms of specific situations (the request for advice from girl- and boyfriends, failing to request advice from mother or to inform her of the problems …) and special people (mother versus peers). In order to pursue this approach, 10 semi-structured interviews were conducted with adolescents. The thematic analysis of interviews shows that, from what teenagers say, the mother–adolescent relationship prevails over the father–adolescent relationship. This result confirms studies in psychology that emphasized mother’s special role in the construction of autonomous adolescents (Geuzaine et al., 2000; Mayseless et al., 1998). On the basis of the qualitative study, 17 items capable of measuring autonomy from mother were generated (Appendix 4). The first battery of items was pre-tested with a dozen teenagers to ensure questions had been made clear and answers understood correctly. Moreover, to improve the content validity of our instrument and reduce the initial list, all 17 items were submitted to three experts in management science. Based on these three experts’ opinions, seven propositions were deleted because they were considered too redundant or unsuited to defining the concept of adolescent autonomy. Finally, 10 items were selected for the first data collection.

To clean up measurement scales, an early collection (n1 = 156) was conducted. The principal components analyses (PCAs) were conducted on each construct separately, then overall: they have, through an iterative process, eliminated problematic items (loadings less than 0.5, less than 0.5 communalities, or presence of cross-loadings). After this procedure, 18 items have been removed and a five-dimensional structure was obtained, corresponding to the five constructs (autonomy from mother, self-esteem, normative influence, peer informational influence and frequency of shopping with peers). To confirm convergent and discriminant validities to the measurement scales, a second collection was conducted among 182 teenagers (Appendix 5). It checked for the stability of the factor structure of each construct. A confirmatory factor analysis (CFA) was conducted, using the AMOS software, to establish scales psychometric properties (Kline, 2005). Overall adjustment indicators are satisfactory (χ²/d.f. = 1.030, RMSEA = 0.013; SRMR = 0.045; GFI = 0.929; CFI = 0.997). Convergent and discriminant validity to the five subscales were evaluated. Convergent validity to scales was established (Jöreskog rho higher than 0.7 for all constructs and convergent rho validity greater than 0.5 for all constructs). Finally, discriminant validity, in Fornell and Larcker’s sense (1981), is satisfied because all constructs are more related to their own measurements than to other constructs, as shown in Appendix 5.

**Effects of gender on the frequency of shopping with friends**

A third data collection was conducted with a sample of 303 adolescents. The purpose of this collection was to revalidate the measurement scale’s psychometric properties so as to, in a second step, test the conceptual model presented in this research. The results of the confirmatory factor analysis on the final sample (n3 = 303) are very satisfactory, as are the reliability and validity tests (Appendix 5). The conceptual model presented in Figure 1 can thus be evaluated. To this purpose, we have chosen structural equation modeling as a method of data analysis (AMOS software). The model provides a satisfactory fit (χ²/ddf = 1.149; RMSEA = 0.022; SRMR = 0.046; GFI = 0.950; CFI = 0.990).

To test the moderating role of gender on the specified relationship between constructs (Figure 2), we followed Kline’s (2005) recommendations. A multi-group analysis was performed to test the moderating effect of the gender variable. First, it checks the stability of measuring scales. Correlations stability was observed between items and latent variables, as well as covariance stability between error terms. This proves that the measurement of constructs is not influenced by gender. In a second step, we analyze, at structural level, the moderating effect of the gender variable. The structural invariance of the model is tested by the χ² difference. This
is significant ($\Delta \chi^2(18) = 30.464; p < 0.05$). Therefore, gender does have a moderating effect.

**Self-esteem, susceptibility to peer normative influence and gender**

Contrary to what we postulated in H1a and unlike the results obtained in the marketing literature on adolescents (Rose et al., 1998; Yang and Laroche, 2011), self-esteem has no significant impact on susceptibility to peers’ normative influence ($a_1 = 0.063; [-0.176; 0.047], p = 0.244$). The H1a hypothesis has consequently been rejected. This lack of relationship results from disparities between boys and girls. Thus, self-esteem has a negative impact on susceptibility to peer normative influence among girls ($a_2 = 0.169; [-0.324; -0.023], p < 0.05$), while self-esteem has no significant effect on boys ($a_3 = 0.029; [-0.149; 0.221]; p = 0.691$). The test of the difference between the two parameters indicates the existence of a significant moderating effect of gender on the 5% threshold ($t = 1.991$).

According to research in psychology (Harter, 1993; Ninot et al., 2000) for girls, the relationship between self-esteem and susceptibility to peer normative influence is significantly negative, which is not the case for boys. This result supports hypothesis H1b.

**Autonomy, frequency of shopping with friends and gender**

Assumption H2a that autonomy from mother positively and significantly influences the frequency of shopping with friends is validated ($b_1 = 0.305; [0.147; 0.487], p < 0.01$). So, it seems that frequency of shopping in the presence of peers is a consequence of the process of teenagers’ empowerment from mother. This relationship is stronger for boys ($b_3 = 0.542; [0.201; 0.908]; p < 0.01$) than for girls ($b_2 = 0.177; [0.010; 0.361]; p < 0.05$), in accordance with H2b. The test of difference between the two parameters ($t = 2.242; p < 0.05$) indicates a significant moderating effect of gender on the 5% threshold. This corroborates the already mentioned psychological research (Cox and Dittmar, 1995) that boys value shopping in the presence of peers as a way to break away from mother so as to express their own individuality.

**Autonomy, susceptibility to peer normative and informative influences, shopping frequency and gender**

To test the chain mediation model by adolescents’ susceptibility to peer normative and informative influences, we use the method Preacher and Hayes (2008) recommended, which estimates the standard settings errors by bootstrap. If the confidence interval does not contain the zero value, mediation is significant (Arbuckle and Wothke, 1999). It follows that the indirect chain effect is significant ($c_1*d_1*e_1 = 0.182*0; 764* 0.431 = 0.060; 0.029, 0.113], p < 0.01$). According to the procedure recommended by Shrout and Bolger (2002), the indirect effect is only 16.4% of the total effect. H3a is confirmed. We observe partial chain mediation. Results confirm that shopping with friends is a means of testing various aspects of adolescents’ identity: it allows satisfying both a need for individuation (need for autonomy) and for social assimilation (need for approval and for seeking information from peers).

The identity mechanisms underlying the shopping with friends behavior differ by gender: while boys are more likely to choose the direct way to go from autonomy from mother to frequency of shopping, girls – more than boys – travel the indirect path through peers’ double influence, normative and informative. The values of indirect effects are respectively 0.084 ([0.033; 0.176], $p < 0.01$) for girls, and 0.044 ([0.06; 0.152], $p < 0.05$) for boys, which validates the significance of indirect effects. The variance percentage through chain mediation amounted to 32.2% for girls down against 7.5% for boys. We can conclude that chain mediation is greater for girls than for boys. A series of additional tests makes it possible to assess at what levels differences exist between girls and boys. In accordance with hypotheses H3b, H3c and H3d, the relations: autonomy → normative influence; normative influence → informative influence; and informative influence → shopping, are higher for girls than for boys (Table 2). However, the differences between boys and girls are not significant at the 5% threshold. This certifies that gender does not significantly moderate the three relationships. Assumptions H3b, H3c and H3d are therefore rejected.
Table 2. Analysis of moderating effects of gender.

<table>
<thead>
<tr>
<th>Moderate relation</th>
<th>t-test of difference by gender</th>
<th>p</th>
<th>Girls (n3 = 159)</th>
<th></th>
<th>Boys (n3 = 144)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>p</td>
<td>Non-standardized coefficients</td>
<td>Confidence interval</td>
<td>p</td>
<td>Non-standardized coefficients</td>
</tr>
<tr>
<td>H1b: Self-esteem → Susceptibility to peers’ normative influence</td>
<td>1.991 **</td>
<td>**</td>
<td>-0.169</td>
<td>[-0.324; -0.023]</td>
<td>**</td>
<td>0.029</td>
</tr>
<tr>
<td>H2b: Autonomy from mother → Frequency of shopping in the presence of peers</td>
<td>2.242 **</td>
<td>**</td>
<td>0.177</td>
<td>[0.010; 0.361]</td>
<td>**</td>
<td>0.542</td>
</tr>
<tr>
<td>H3b: Autonomy from mother → Susceptibility to peers’ normative influence</td>
<td>-0.581 NS</td>
<td>NS</td>
<td>0.221</td>
<td>[0.091; 0.371]</td>
<td>***</td>
<td>0.163</td>
</tr>
<tr>
<td>H3c: Susceptibility to peers’ normative influence → Susceptibility to peers’ informative influence</td>
<td>-0.786 NS</td>
<td>NS</td>
<td>0.817</td>
<td>[0.604; 1.079]</td>
<td>***</td>
<td>0.666</td>
</tr>
<tr>
<td>H3c: Susceptibility to peers informative influence → Frequency of shopping in the presence of peers</td>
<td>-0.346 NS</td>
<td>NS</td>
<td>0.465</td>
<td>[0.262; 0.695]</td>
<td>***</td>
<td>0.407</td>
</tr>
</tbody>
</table>

Significance rate: ** = p < 1%; *** = p < 5%; NS corresponding to non-significant links (p > 5%).

Adjustment indicators

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>χ²/ddl</td>
<td>1.321</td>
</tr>
<tr>
<td>GFI</td>
<td>0.893</td>
</tr>
<tr>
<td>CFI</td>
<td>0.958</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.033</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.059</td>
</tr>
</tbody>
</table>


Conclusion

Discussion of results

The first objective of this research is to study the differences related to gender-specific identity mechanisms underlying adolescents’ frequency of shopping with friends. More precisely, we show that the direct relationship between reaching autonomy and shopping frequency is higher among boys than among girls. In contrast, among girls, mediation through susceptibility to peer normative and informative influences is stronger than among boys. Shopping with friends proves to be a consequence of reaching autonomy from mother in boys, whereas, in girls, it responds to a need for social approval and search for information from peers. Our results corroborate Cox and Dittmar’s (1995) research in psychology: when they consume, boys value consumption as a way to express their autonomy, while girls look for social approval.

This work has also explored the combined effects of individual and social processes to explain adolescents’ frequency of shopping with friends. More specifically, we introduced the variables of autonomy and susceptibility to peer normative and informative influences in a structural model explaining adolescents’ frequency of shopping with friends. Our results highlight that the frequency of shopping with friends meets a duality that is typical of adolescence: the need for individuation and the need for social assimilation. Previous work implements either qualitative methods (Haytko and Baker, 2004; Yalkin and Elliott, 2006; Zouari, 2010) or cross-tabulation (Badaoui et al., 2009) or then again multiple regression (Badaoui, 2009). We use more advanced statistical analyses (chain mediations moderated by gender) in order to simultaneously take into consideration all relationships between concepts.

Theoretical implications of the research

Few works in marketing have studied the role of gender on processes underlying adolescents’ frequency of shopping with friends. In addition, this work is mainly focused on the processes of peer influence (Auty and Elliott, 2001; Rose, Boush and Friestad, 1998) and does not study the combined effects of individual and social processes to explain frequency of shopping with friends (Badaouï, 2009; Haytko and Baker, 2004; Mangleburg et al., 2004; Yalkin and Elliott, 2006). These limits are highlighted by Chan et al. (2012); they specify the need to integrate both mechanisms that are essential to identity construction – need for individuation and need for social assimilation – and to study the impact of gender on these mechanisms. The main theoretical contribution of this article is to have highlighted the dual nature of shopping with friends – as a way to reconcile the need for individuality and the need for social assimilation, which are specific to teenagers. Shopping with friends allows boys to assert their individuality; and girls to feel they belong to the group.

A thorough review of consuming teenagers’ specific features raises questions about their degree of autonomy. For this, we go beyond the two dominant research currents in teen consumer behavior. These are (1) the influence of adolescents on their families’ economic decision-making and, (2) teenager consumer socialization. Adolescence is a period of life when the matter of autonomy is crucial (Blos, 1979) and when consumption plays a significant role in the affirmation of autonomy (Palan et al., 2010). However, there are few academic works in marketing that are interested in the extent of adolescents’ autonomy. An additional contribution of this article is based on the construction of a scale measuring autonomy from mother. The stability of this scale has been tested on three different samples ($n_1 = 156$; $n_2 = 182$ and $n_3 = 303$). Convergent and discriminant validity to the scale, examined by conventional testing methods (structural equations), has proved satisfied. Compared to the work of Badaouï and colleagues (Badaouï, 2009; Badaouï et al., 2009, 2012), our model brings to bear the importance of adolescents’ autonomy to explain the frequency of shopping with friends, while this variable has not been integrated into their modeling of motives for teenagers’ choice of clothing styles.

Managerial implications of the research

Our results encourage professionals keen on targeting adolescents to reflect, on one hand, on the needs
for individuation and social assimilation underlying the practice of shopping with friends and, on the other hand, on gender-induced differences.

In order to meet the need for assimilation, retail chains may invite teenagers to participate in ‘shopping’ events, by coming with their friend(s) to obtain promotional discounts extended to the group (i.e. rebates conditional to the presence of friends and/or rebates for purchases by two or more members of the same group). Retail chains can also design commercial spaces, combining clothes shops and bars/restaurants, allowing teenagers to get together with friend(s) in relaxation areas and to shop together. The need for social approval may also be met by providing fitting rooms large enough for two people; by setting them up close to a space where friend(s) can take pictures and give feedback on the models tested.

As for the need for autonomy, retail chains can adjust shops spatial organization. For example, the aspiration to autonomy can be facilitated by specific spaces designed to separate adolescents from the world of childhood. In addition, more brands should consider adolescents as adults in the making – no longer as big kids – by communicating on assertiveness values. Such initiatives should help satisfy adolescents’ need for autonomy, and could well lead them to adopt the brand over the long term.

Retailing professionals had better direct their marketing strategy by gender, to take into account differences between girls and boys in the latter’s practical shopping with friends activity. This is what some shops for girls (Jennyfer and Pimkie) have begun to implement: they have made their shelves more affordable to enable adolescents to walk around in groups with their girlfriends inside the same department. Sports brands preferred by boys, such as Nike, Quiksilver or Adidas, implement effective communication campaigns playing on the values of freedom and individualism to meet their need for empowerment.

**Limitations and avenues of research**

This work presents various limitations, which are avenues for future research. The measure of autonomy takes account of mother, exclusively. Although much research highlights mother’s key role in the construction of adolescents’ autonomy (Geuzaine et al., 2000; Mayseless et al., 1998), ‘the emerging creation of a new father’s space’, highlighted by some psychologists (Roques, 2003: 1), bids us to look in more detail on father’s new role in the process of adolescents’ empowerment (Delumeau and Roche, 2000). There is a demand for division of labor and care of children (Cadolle, 2009). Today, what is promoted is a father that is more present, more attentive and available to adolescents (Delumeau and Roche, 2000; Jamoulle, 2005). This is true of some categories of products, such as sporting goods and high technology (Coakley, 2006; Pasquier and Jouët, 1999). Another limitation is focus on shopping. We evaluated four shopping activities with friends (clothes, drinks, fast food, shows and concerts). However, adolescents construct their identity on activities other than shopping. It would be interesting to examine other areas, such as sports or music practices, or new high-tech products, such as mobile devices like tablets or smart mobile phones (Derbaix and Leheut, 2005). In addition, we used a dichotomous measure of gender that refers to the adolescent’s biological sex (i.e. being a boy or a girl). Though gender, in the biological sense, is a single segmentation variable, an easily identifiable and accessible one (Putrevu, 2004), recent research advocates resorting to a multi-factor measure of gender to understand consumer behaviors more accurately at key times of existence, such as the arrival of a child or adolescence (Ulrich and Tissier-Desbordes, 2013). Finally, our research focuses on the two main agents of adolescents’ socialization (mother and the peer group). Other factors such as school socialization (Haytko and Baker, 2004; Rodhain, 2003), the media (Borges, 2011; Martin and Gentry, 1997) and culture (Palan et al., 2010) play an important role in adolescents’ learning how to consume.

**Notes**

1. When we use the term ‘teenagers’, we mean ‘a 12 to 18-year old, living in a family and attending a school’ (Fosse-Gomez, 1991: 8).
2. These writers also deal with psychosexual identity or the l’identité d’exécutant, which will not be studied in this article.
3. There is a sizeable literature on self-esteem (1575 articles are listed in the bibliographical base Science Direct when using the key-words 'self-esteem' and 'estime de soi'). For reasons of economy, only the main measurements of self-esteem with adolescent populations are presented here.

4. To complete the information provided by adolescents, we have interviewed the mothers of 10 adolescents (140 re-transcribed pages) that we consider as 'experts' to air their views about their children's autonomy. The results obtained with mothers are close to those with adolescents.

5. Interviews have been transcribed on 165 pages; here is a significant verbatim example: 'I’d rather not say too much about my father. I generally prefer to talk to a girl, we understand each other better. I much more often talk with my mother. This does not mean I tell her everything about me, I do try to achieve a degree of autonomy from her and have my own secret garden.'

6. Expert status has been conferred to researchers who work or have worked in the area of teenage consumer behavior and/or the development of measuring scales.

7. The procedure recommended by Kline (2005) tests the invariance of the measurement model primarily and, second, of the structural model. These analyses are conducted with a Chi-squared ($\Delta \chi^2$) difference test, which shows in our data, first, the model invariance and, second, the significant impact of gender on the structural model.

8. This is the residual effect after indirect effects of double mediation have been taken into consideration. The direct impact is at $0.586 \pm [0.239; 0.958]; p < 0.01$ on boys and $0.261 \pm [0.106; 0.449]; p < 0.05$ on girls.

9. Several methods exist to construct a confidence interval based on the 'bootstrap'. The 'Bias-Corrected Bootstrap' adjusts the bias in the distribution. For more details, please see MacKinnon et al. (2004).

10. The strength of the chain multiple mediators model can be calculated this way: value of the indirect effect/value of the total effect, namely $0.060/0.365 = 16.4\%$.

11. The part of the indirect path (chain mediations) is at $0.084/0.261 = 32.2\%$ for girls as against $0.044/0.586 = 7.5\%$ for boys.

12. For example, the Fnac store has created a 'teens – young adults' tab on their Internet site and offers areas in shops that are specifically meant for adolescents via display panels 'from 13 years of age – Teenagers' (www.slate.fr/story/59641/livres-young-adultes-twilight-harry-potter-hunger-games-ados).

13. According to Chastellier (2003), Nike’s slogan ‘just do it’, maximizing values of self-betterment and individuation, is perceived as gratifying and not infantilizing.

14. Quiksilver relies on the following values: authenticity, nature and freedom associated with sliding sports.

15. Justin Bieber, the singer and idol of a whole generation of teenagers, is the new face of the Adidas brand. This is the message delivered by Adidas: 'Become what you are', which is a reminder of Justin Bieber’s latest album, Believe, based on the values of freedom and fashion (www.ladepeche.fr/article/2012/10/17/1467259-justin-bieber-nouveau-visage-d-adidas-neo.html).

16. For example, if to the question: ‘could adolescents possibly not buy the same clothes as their friends?’ the answer is n° 1 (totally unlikely) or n° 2 (not very likely) or 3 (rather unlikely), then this is central behavior in adolescents. What we consider as central are behaviors about which the proportion of teenagers answering 1, 2 or 3 is significantly different (chi2) from a theoretical distribution (50 at 1, 2 or 3 versus 50 at 4, 5, 6 and 7).

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### Appendix 1. Socio-demographic features of three samples from quantitative studies.

<table>
<thead>
<tr>
<th>Average age</th>
<th>School level</th>
<th>Distribution by school levels</th>
<th>Gender</th>
<th>Type of school</th>
<th>Geographical location of the institution</th>
<th>Place among siblings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study 1 (n1 = 156)</strong></td>
<td>16.5</td>
<td>Junior-high: 32.6% 8th grade: 10.6% 9th grade: 22% Senior-high: 67.4% 10th grade: 28.2% 11th grade: 18.1% 12th grade: 21.1%</td>
<td>8th grade: 1 form 9th grade: 1 form 10th grade: 1 form 11th grade: 1 form 12th grade: 1 form</td>
<td>49.3% boys 50.7% girls</td>
<td>Private: 40.4% State-owned: 38.6%</td>
<td>Town-center: 46.3% Suburban: 53.7%</td>
</tr>
<tr>
<td><strong>Study 2 (n2 = 182)</strong></td>
<td>15</td>
<td>Junior-high: 48.4% 8th grade: 16.4% 9th grade: 32% Senior-high: 51.6% 10th grade: 20.8% 11th grade: 25.3% 12th grade: 5.5%</td>
<td>8th grade: 1 form 9th grade: 2 forms 10th grade: 2 forms 11th grade: 1 form 12th grade: 1 form</td>
<td>51% boys 49% girls</td>
<td>Private: 37.4% State-owned: 62.6%</td>
<td>Town-center: 56.9% Suburban: 4.1%</td>
</tr>
<tr>
<td><strong>Study 3 (n3 = 303)</strong></td>
<td>15.7</td>
<td>Junior-high: 39.9% 8th grade: 15.5% 9th grade: 24.4% Senior-high: 60.1% 10th grade: 14.2% 11th grade: 33% 12th grade: 12.9%</td>
<td>8th grade: 1 form 9th grade: 3 forms 10th grade: 2 forms 11th grade: 4 forms 12th grade: 1 form</td>
<td>47.5% boys 52.5% girls</td>
<td>Private: 40% State-owned: 60%</td>
<td>Town-center: 57.7% Suburban: 42.3%</td>
</tr>
</tbody>
</table>
### Appendix 2. Questionnaire (study 3, with \( n_3 = 303 \)).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
<th>Reliability (Jöreskog Rhô)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescents’ autonomy from their mother *</td>
<td>*Aut1: When I have a problem, I turn for advice more often to my peers than to my mother&lt;br /&gt;*Aut2: When I am annoyed, I don’t easily turn to my mother to talk about my problems&lt;br /&gt;*Aut3: I tell more about myself to my peers than to my mother</td>
<td>0.793</td>
</tr>
<tr>
<td>Susceptibility to peers’ interpersonal influence*</td>
<td>*Norm1: If my peers see me while selecting clothes, I often buy those they prefer&lt;br /&gt;*Norm2: I enjoy knowing what types of clothing make a good impression on my peers&lt;br /&gt;*Norm3: Most of the times, I purchase clothes that my peers like&lt;br /&gt;*Norm4: I often identify to my friends when I buy the same types of clothes as theirs&lt;br /&gt;*Info1: I often ask my friends about clothes before I buy my own&lt;br /&gt;*Info2: When I buy clothes, I often ask my friends for advice to help me make the best choice&lt;br /&gt;*Info3: Generally, when I don’t know a brand of clothing, I turn to my peers for advice</td>
<td>0.814 0.819</td>
</tr>
<tr>
<td>Self-esteem *</td>
<td><em>Est1: As a whole, I feel happy with myself&lt;br /&gt;<em>Est2: I tend to feel I am a failure</em></em>*&lt;br /&gt;*Est3: I think I am as worthy as anybody else&lt;br /&gt;*Est4: I have a positive opinion of myself</td>
<td>0.774</td>
</tr>
<tr>
<td>Frequency of shopping with friends **</td>
<td>*Shop1: When I purchase clothes, I go shopping with my friends&lt;br /&gt;*Shop2: I have a drink with my peers&lt;br /&gt;*Shop3: I go to the MacDo or Quick with my peers&lt;br /&gt;*Shop4: I go to concerts or festivals with my peers</td>
<td>0.795</td>
</tr>
</tbody>
</table>

*Items are measured on a 5-point Likert scale ranging from ‘totally disagree’ to ‘totally agree’.<br />**Items are measured on a 5-point frequency scale ranging from ‘never’ to ‘always’.<br />***Items are inverted.
Appendix 3. Identifying adolescents’ central behaviors ($n1 = 156$).

Adolescents’ behaviors in the presence of their peers

<table>
<thead>
<tr>
<th>Central behaviors (very representative)</th>
<th>Chi2 Calculated ($p = &lt; 5%$)</th>
<th>Chi2 lu ($p = &lt; 5%$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Purchasing clothes with friends</td>
<td>83.30</td>
<td>3.84</td>
</tr>
<tr>
<td>2. Going to the MacDo or Quick with friends</td>
<td>24.64</td>
<td>3.84</td>
</tr>
<tr>
<td>3. Having a drink in town with friends</td>
<td>24.64</td>
<td>3.84</td>
</tr>
<tr>
<td>4. Going to concerts or festivals with friends</td>
<td>9.26</td>
<td>3.84</td>
</tr>
</tbody>
</table>

Peripheral behaviors (not representative)

<table>
<thead>
<tr>
<th>Peripheral behaviors (not representative)</th>
<th>Chi2 Calculated ($p = &lt; 5%$)</th>
<th>Chi2 lu ($p = &lt; 5%$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Watching a movie in a theater with friends</td>
<td>3.10</td>
<td>3.84</td>
</tr>
<tr>
<td>6. Having lunch outside school with friends</td>
<td>3.10</td>
<td>3.84</td>
</tr>
<tr>
<td>7. Calling friends behind closed doors</td>
<td>0.92</td>
<td>3.84</td>
</tr>
<tr>
<td>8. Getting the same hairstyle as friends</td>
<td>0.64</td>
<td>3.84</td>
</tr>
<tr>
<td>9. Asking friends for advice before buying a new iPod</td>
<td>1.25</td>
<td>3.84</td>
</tr>
<tr>
<td>10. Having an alcoholic drink during a party with friends</td>
<td>4.33</td>
<td>3.84</td>
</tr>
<tr>
<td>11. Going out to a bar with friends</td>
<td>1.64</td>
<td>3.84</td>
</tr>
<tr>
<td>12. Going out on weekends with friends</td>
<td>1.00</td>
<td>3.84</td>
</tr>
<tr>
<td>13. Going out to discos with friends</td>
<td>1.00</td>
<td>3.84</td>
</tr>
<tr>
<td>14. Sharing music or movies with friends</td>
<td>1.00</td>
<td>3.84</td>
</tr>
<tr>
<td>15. Buying the same style of music as friends</td>
<td>1.00</td>
<td>3.84</td>
</tr>
</tbody>
</table>

Appendix 4. Initial items of autonomy as collected from the qualitative study. ($n1 = 156$).

Items

10 items selected by experts

- Aut1: When I have a problem, I more often ask my friends more than my mother for advice
- Aut2: When I feel annoyed, I do not willingly tell my mother about my problems
- Aut3: I tell my friends more than my mother about myself
- Aut4: I have my own issues and my parents cannot demand I tell them all about them at home
- Aut5: I’d rather not tell my mother everything; some things in my life are none of her business
- Aut6: I’m wired not to tell my mother everything about myself, I’d rather keep to myself
- Aut7: My mother never comes to kiss me good-night
- Aut8: I rarely hug my mother
- Aut9: I never tell my mother anything about my love-life
- Aut10: I keep my secrets to myself and I have my own secret garden

7 items excluded by experts

- Aut1: I am not just a kid; my parents shouldn’t keep protecting me as they used to
- Aut2: My mother needn’t know my friends
- Aut3: My opinions are often different from my mother’s. We disagree on most topics.
- Aut4: Nowadays, I have a better relationship with my mother than we used to 2 or 3 years ago
- Aut5: My mother and I often clash with each other, and I most of the times disagree with her
- Aut6: When I talk with my mother, I very often tell her to her face I disagree
- Aut7: I totally disagree with my mother on most issues
### Appendix 5. Formulation used and psychometric quality of constructs ($n^2 = 182$).

<table>
<thead>
<tr>
<th>Formulation used</th>
<th>Factor contributions</th>
<th>Jöreskog's reliability Rhô</th>
<th>Convergence validity</th>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy from mother</td>
<td>Aut1</td>
<td>0.776</td>
<td>0.834</td>
<td>0.634</td>
</tr>
<tr>
<td></td>
<td>Aut2</td>
<td>0.606</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aut3</td>
<td>0.967</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susceptibility to normative influence</td>
<td>Norm1</td>
<td>0.785</td>
<td>0.854</td>
<td>0.594</td>
</tr>
<tr>
<td></td>
<td>Norm2</td>
<td>0.736</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norm3</td>
<td>0.798</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norm4</td>
<td>0.775</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susceptibility to informative influence</td>
<td>Info1</td>
<td>0.730</td>
<td>0.823</td>
<td>0.608</td>
</tr>
<tr>
<td></td>
<td>Info2</td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Info3</td>
<td>0.766</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping with friends</td>
<td>Shop1</td>
<td>0.814</td>
<td>0.796</td>
<td>0.498</td>
</tr>
<tr>
<td></td>
<td>Shop2</td>
<td>0.702</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shop3</td>
<td>0.668</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shop4</td>
<td>0.623</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>Est1</td>
<td>0.756</td>
<td>0.826</td>
<td>0.545</td>
</tr>
<tr>
<td></td>
<td>Est2</td>
<td>0.728</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Est3</td>
<td>0.807</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Est4</td>
<td>0.655</td>
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<td></td>
</tr>
</tbody>
</table>

\(^a\)Shared variance between factors.
\(^b\)Correlations between factors.

### Adjustment indicators of the model

<table>
<thead>
<tr>
<th>$\chi^2$ (ddl)</th>
<th>AGFI</th>
<th>RMSEA</th>
<th>HI 90</th>
<th>Pclose</th>
<th>CFI</th>
<th>TLI</th>
<th>$\chi^2$/ddl</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>128.81 (125)</td>
<td>0.903</td>
<td>0.013</td>
<td>0.039</td>
<td>0.996</td>
<td>0.997</td>
<td>0.996</td>
<td>1.030</td>
<td>0.045</td>
</tr>
</tbody>
</table>
### Appendix 6. Formulations used and psychometric constructs \((n^3 = 303)\).

<table>
<thead>
<tr>
<th>Formulations used</th>
<th>Factor contributions</th>
<th>Jöreskog reliability (\rho)</th>
<th>Convergence validity</th>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Autonomy from mother</td>
</tr>
<tr>
<td>Autonomy from mother</td>
<td>Aut1</td>
<td>0.821</td>
<td>0.785</td>
<td>0.557</td>
</tr>
<tr>
<td></td>
<td>Aut2</td>
<td>0.824</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aut3</td>
<td>0.564</td>
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</tr>
<tr>
<td>Susceptibility to normative influence</td>
<td>Norm1</td>
<td>0.679</td>
<td>0.825</td>
<td>0.524</td>
</tr>
<tr>
<td></td>
<td>Norm2</td>
<td>0.737</td>
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</tr>
<tr>
<td></td>
<td>Norm3</td>
<td>0.811</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Norm4</td>
<td>0.714</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susceptibility to informative influence</td>
<td>Info1</td>
<td>0.738</td>
<td>0.834</td>
<td>0.627</td>
</tr>
<tr>
<td></td>
<td>Info2</td>
<td>0.859</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Info3</td>
<td>0.774</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping with friends</td>
<td>Shop1</td>
<td>0.720</td>
<td>0.800</td>
<td>0.500</td>
</tr>
<tr>
<td></td>
<td>Shop2</td>
<td>0.731</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shop3</td>
<td>0.662</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shop4</td>
<td>0.718</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td>Est1</td>
<td>0.752</td>
<td>0.835</td>
<td>0.560</td>
</tr>
<tr>
<td>Est2</td>
<td>0.702</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est3</td>
<td>0.720</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est4</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Shared variance between factors.  
\(^b\)Correlations between factors.

### Adjustment to the model indicators

<table>
<thead>
<tr>
<th>(\chi^2) (ddl)</th>
<th>AGFI</th>
<th>RMSEA</th>
<th>HI 90</th>
<th>Pclose</th>
<th>CFI</th>
<th>TLI</th>
<th>(\chi^2/\text{ddl})</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>143.572(125)</td>
<td>0.931</td>
<td>0.022</td>
<td>0.037</td>
<td>1.000</td>
<td>0.990</td>
<td>0.988</td>
<td>1.149</td>
<td>0.046</td>
</tr>
</tbody>
</table>