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Michał Dębek[1]
University of Wrocław

What Drives Shopping Mall Attractiveness?

Abstract:

My article investigated the drivers of shopping mall attractiveness. Which of various shopping mall qualities are key to building a mall's attractiveness? This was the fundamental question in the cross-sectional, survey-based correlational study. The participants included 384 adult Poles (192 men and 192 women whose median age was 22). The survey included 58 items – nine to measure the shopping mall's attractiveness (its emotional impact, cognitive effect and the customer's visiting frequency), and 49 to measure its hypothetical predictors. The investigated objects were six urban shopping malls in Wroclaw, Poland. It turned out that shopping mall attractiveness was driven mainly by their atmosphere and social positioning. Surprisingly, the more subjectively noisy and crowded the shopping mall was, the more attractive it appeared to be; commerce-related features, on the other hand, while usually treated as vital to a shopping center, contributed relatively little to the mall's attractiveness.

Keywords*:*

environmental appraisal; shopping mall

Streszczenie:

Ten artykuł dotyczy atrakcyjności współczesnych galerii handlowych. Które spośród wielu różnych cech galerii handlowych, i w jakiej hierarchii, warunkują ich atrakcyjność? To pytanie na które spróbowałem odpowiedzieć po przeprowadzeniu przekrojowego badania korelacyjnego i przeanalizowaniu jego wyników. W projekcie wzięło udział 384 dorosłych Polaków (192 mężczyzn i 192 kobiet, przeciętnie 22 letnich). Kwestionariusz, który wypełniali, zawierał 58 pytań – dziewięć mierzących atrakcyjność galerii handlowej (diagnozujących ustosunkowanie emocjonalne wobec galerii, jej ocenę poznawczą oraz częstotliwość wizyt) oraz 49 pytań mierzących hipotetyczne predyktory atrakcyjności po stronie galerii handlowej. Badani oceniali wielowymiarowo sześć galerii handlowych usytuowanych w centrum Wrocławia. Okazało się, że atrakcyjność galerii handlowych była współzmienna przede wszystkim ze spostrzeganą ich atmosferą i pozycjonowaniem społecznym. Co ciekawe, im bardziej były galerie (subiektywnie) hałaśliwe i zatłoczone, tym bardziej atrakcyjne jednocześnie się okazywały. Z kolei typowo handlowe, spostrzegane przez badanych cechy galerii, zwykle w literaturze przedmiotu traktowane jako kluczowe dla ich funkcjonowania, okazały się relatywnie słabo związane z ogólną atrakcyjnością galerii handlowych.

[1] Michał Dębek, Institute of Psychology, Faculty of Pedagogical and Historical Sciences, University of Wrocław, Dawida 1, 50-527 Wrocław; michal.debek@uwr.edu.pl.

Słowa kluczowe:
psychologia środowiskowa, ocena środowiska, atrakcyjność środowisk handlu, galerie handlowe, centra handlowe

Introduction

Places that we love are not always unequivocally beautiful, nor do they induce magnificent sensory experiences; and they are not always perfectly functional. Some places and structures are just somehow more attractive than others; they constitute specific "magnets" in the ordinary environment full of otherwise unexceptional objects which we do not pay much attention to. These magnets are tangible entities, while their magnetic fields and magnetism are intangible, invisible (but forceful) powers that pull people towards particular objects; they make people want to visit them, explore, spend some time and maybe even invite some friends. Everyone knows lively piazzas, bustling promenades and boulevards, as well as so-called third places or small public spaces – all being magnets attracting people towards themselves. They are as old as human permanent settlements in general. Their invisible "magnetism" has been the subject of many classic urban studies (Gehl, 2010; Oldenburg, 1999; Whyte, 1980), although not introducing such a term explicitly, but relying on a common – albeit somewhat fuzzy – concept of attractiveness.

The most attractive, famous places such as Piazza del Campo in Siena, Italy, Champs-Élysées in Paris, France, or the space around the Spanish Steps in Rome, are visited by millions every year. They have several features which make them great public spaces that attract many people (Gehl, 2010), but none of them physically pull anyone towards it. This pulling force is a "by-product" of how it is perceived. After all these places are not even "proper places" unless they are perceived as such – if we apply, for example, Creswell's (2011), Lewicka's (2008) or Auge's (1995) conceptualizations of the term "place". Once it is perceived as a physical place full of particular features (inevitably in a physical, cultural and observer-specific mental context), it can turn out to be a magnet – a highly attractive environment. Until then, it only demonstrates a potential to become such an attractor.

The environment is attractive whenever and only if it has a capability to be perceived in a way that induces positive emotions, a positive cognitive appraisal and if it encourages people to approach or to get inside. Attractiveness as a percept is built upon the needs, demands and preferences of the individual. As Niedomysl (2006) argued, the greater the extent to which a place can fulfil these three factors, the greater its attractiveness is; it is assessed subjectively and is dependent on a situation. Obviously such a vague concept cannot be perfectly measured, but there are probably three fundamental aspects of a place or built object's momentary attractiveness: its emotional impact, cognitive ef-

fect and its attraction force. From this point on, I will use the term attractiveness in this exact meaning.

Relatively recently new attractors have emerged in urban environments around the world – shopping malls. While the concept had not yet been refined in the fifties (Gruen & Smith, 1960), it nowadays attracts millions, in various locations on the globe (Backes, 1997; PropertyNews, 2013; Rzeczpospolita, 2013). Gone are the days when a shopping mall was a significant part of the universe just for the American "suburban nation" (Duany, Plater-Zyberk, & Speck, 2010). Modern malls are "worlds in themselves" (Crawford, 1992), "circuses for the masses" (Goss, 1993), "indoor cities" (Uzzell, 1995) and an idyllic "fantasy urbanism" (Crawford, 1992, p. 22) for suburban as well as urban dwellers (Gillette, 1985). Shopping malls became more and more "natural" environments for people of the 21st century; "consumer habitats" – as Bloch, Ridgway and Dawson put it (1994). People like to "gravitate" (Wolf, 2003) towards these "magnets".

Shopping malls, the contemporary urban attractors, have become bigger and more complex structures than ever before (Kalinowska, 2008). Nowadays they are monstrous architectural objects hundreds of thousands of square meters in size (Pietzsch, 2012); their footprints are many times bigger than the size of any traditional medieval marketplace in the heart of a European city, many times bigger than, for example, a football pitch. Hundreds of shops and services under their gargantuan roofs fulfill both utilitarian and hedonic human needs (Arnold & Reynolds, 2003; Babin, Darden, & Griffin, 1994; Jones, Reynolds, & Arnold, 2006; Ng, 2003; Uzzell, 1995); and they do it better every day. This is probably the main reason they are visited so often and multitudinously. This also might be the reason why shopping malls are – or will soon become – not merely shops, but main urban spaces to spend leisure time; at least in the opinion of the majority of Poles (Bosiacki & Rydlewski, 2009).

In Poland shopping malls have been an extremely controversial and popular topic of public debate for over ten years, primarily in newspapers (Bartoszewicz, 2004; Kokoszkiewicz, 2013; Otto, 2012; Wit, 2010) but also elsewhere (Lorens, 2005; Makowski, 2003; Rabiej, 2008; Witek, Grzesiuk, & Karwowski, 2008). The main disputes are about the shopping mall's influence on local commerce and urban-design issues, as well as on the present and future social lives of Poles.

The first shopping malls in Poland were built during the early 1990s. Since then they have revolutionized the Polish cities' commercial and public landscapes, altered lifestyles of many Poles, and indeed made prostheses of lively public spaces, forcing the downfall of many traditional, real public ones in the time of post-socialist Polish city transformations. Today, despite the laments of journalists, urban activists and some scholars, Poles are still visiting shopping malls massively. For example, a moderately

sized shopping mall in Poland was attracting between 130 to 160 thousand people during an ordinary weekend (Rzeczpospolita, 2013), or roughly 15 million people a year (PropertyNews, 2013). Many new shopping malls are developing across the country, and since the end of the first decade of the second millennium also in smaller towns (Emerson Nieruchomości, 2008). Today, they are certainly among the most attractive quasi-public spaces (Cohen, 1996) in a contemporary Polish urban area.

But what is the very essence of the shopping mall's attractiveness? What makes a particular mall more attractive than another? Which factors (percepts) drive our emotional reactions towards it, affect our well-being within this structure and our appraisal of it? What is the hierarchy of features creating a shopping mall's attractiveness? Is it the mall's purely commercial dimension (e.g. tenant-mix) that constitutes the attraction? Or is it something more intangible: the atmosphere, design, a mall's potential for spending leisure time within, or its general image? These are crucial questions I have seek to answer in my study.

Literature Review

There is not much research in environmental psychology addressing the issues of human relationships with shopping malls. An attempt to find articles with "mall" in the title, abstract or keywords, yielded four hits in Journal of Environmental Psychology and nine in Environment and Behavior[2]. While environmental psychologists do investigate retail environments and their effect on people (for a review see e.g. Gifford, 2007), shopping malls in particular are arguably not the most popular topic of their interests.

The framework for studying people-shopping mall relationships

In the one of the most comprehensive articles on the topic in environmental psychology, Ng (2003) argued that shopping malls are attractive not only because they handle utilitarian shopping needs, which most of us naturally have, but also because they have great leisure and hedonic potential. He presented a useful conceptual framework for understanding the shopper–environmental fit. According to this framework, shopping mall attractiveness can emerge from their ability to fulfill a shopper's cognitive, physiological and social needs, varying across shoppers' individual characteristics and situational factors. Shopping malls (as well as other shopping environments) face this challenge in providing shoppers with a unique aesthetic experience, special auditory, olfactory, and tactile stimulation, a functional layout, pleasant architecture, navigational aids, seating, tenant variety, and general complexity, as well as by attracting other people.

[2] A search for the keyword "mall" in the article title, abstract, or article's keywords at www.sciencedirect.com, October 13th 2013, and a search for the keyword "mall" in the article title, abstract or article's keywords at www.eab.sagepub.com/search (date range 1969-2014), October 13th 2013

Also numerous business scholars argue that so-called consumers' "patronage", "well-being", "retention proneness" or simply "satisfaction from" a shopping mall, could also be driven by two even broader (in fact partially overlapping) factors: atmosphere (Arentze, Oppewal, & Timmermans, 2005; Chebat, Sirgy, & Grzeskowiak, 2010; Hoffman & Turley, 2002; Massicotte, Michon, Chebat, Sirgy, & Borges, 2011; Michon, Chebat, & Turley, 2005; Pan & Zinkhan, 2006; Ruiz, Chebat, & Hansen, 2004; Turley & Milliman, 2000) and convenience (Bellenger, Robertson, & Greenberg, 1977; El-Adly, 2007; Pan & Zinkhan, 2006; Reimers & Clulow, 2009; Wagner, 2007).

The importance of the above-named factors to the perception of any retail environment seems almost unquestionable, as they were tested and verified in much research to date (Bellenger et al., 1977; Brito, 2009; El Hedhli, Chebat, & Sirgy, 2013; Finn & Louviere, 1996; Kirkup & Rafiq, 1994; Singh & Prashar, 2013; Teller, 2008; Wakefield & Baker, 1998). Unfortunately, the hierarchy of these factors – affecting particularly shopping mall attractiveness – remains unclear.

The atmosphere

Atmosphere can be the first and the most important driver of the way a shopping mall is perceived. As Kotler (1973) long ago argued, atmosphere is among the most important and usable marketing tools in point of sale such as a shopping center. It may affect shopper perceptions and behavior as well as make the shopping environment unique. Pan and Zinkhan (2006) demonstrated that atmosphere significantly affected consumers' choice of a particular store, being fourth in ten significant drivers of retail venue patronage. According to Teller and Reutterer (2008), atmosphere (and ambiance) could be an even more important factor to overall attractiveness of a shopping mall than the merchandise value itself. Chebat et al. (2010) reported a pleasant and moderately arousing atmosphere (color, music, crowding) contribute to shopping mall patronage (via "favorableness"). Ambiance extracted the majority of a "shopping experience in a mall" variance in an empirical study by Singh and Prahsar (2013). Atmosphere also turned out as a significant factor determining "shopping well-being at the mall" in a study by El Hedhli et. al. (2013), even if it was not the number one. Rayburn and Voss (2013) proved that the atmosphere was a key mediating variable between perceived organization, perceived style, and perceived modernness of four different retailers (Old Navy, Rue 21, J.C. Penney, Belk) and the customer's utilitarian and hedonic shopping value of the above-mentioned shops.

We have to remember, though, that research on atmosphere varies dramatically, because the constructs are diversely conceptualized. Elusive in its nature (Havik, Teerds, & Tielens, 2013), atmosphere could be – and has been – operationalized by a variety of constructs and measures (Turley & Milliman, 2000). The outcome variables in past research were also various constructs. According to Turley and Milliman (2000) again,

researchers were interested in the effect of atmosphere on either sales or purchase behavior; impulse buying or time spent in the store; approach-avoidance behavior or, like in Singh and Prashar (2013): a general shopping experience.

The convenience

The shopping mall's convenience is the next almost certain constituent of its attractiveness. Unfortunately, still little is known about its importance, when related to other factors. Pioneering research in the field by Bellenger et al. (1977) showed that convenience is a key driver of shopping center "patronage". Such a finding has some empirical support, as demonstrated by Pan and Zinkhan (2006) in their meta-analysis of retail patronage determinants. Also in the United Arab Emirates convenience was an important factor, although not the key one, to mall attractiveness (El-Adly, 2007); the sample in this study was heavily biased, though, as all participants were UAE University staff. "Time convenience" (a conglomerate of one-stop shopping, extended trading hours, a compact environment, and localization close to where consumers live or work) appeared as the key factor in forming consumers' attitudes toward a shopping center in a recent study by Raimers and Clulow (2009). However, the newest evidence challenged former convenience-centric results. In the study by Singh and Prashar (2013) convenience was the second factor (after ambiance) in building a shopping experience; El Hedhli et al (2013) argued that convenience is the third factor to drive shopping well-being, preceded by self-identification with a shopping mall and its atmosphere. As in the case of atmosphere, convenience was also operationalized differently by particular scholars; different approaches were undertaken to reveal its significance to a number of outcome constructs such as shopping experience, "physical & mental balance", feeling well, shopping satisfaction, contentment or even the quality of life (Wagner, 2007).

Tenant-mix

Tenant-mix seems the most commonly established as one of the most important dimensions of a shopping mall (Brito, 2009; Finn & Louviere, 1996; Kirkup & Rafiq, 1994; Teller, 2008). And indeed, Finn and Louviere (1996) reported the enormous influence of an anchor stores' characteristics on the shopping center image. Later on Teller and Reuterer (2008) showed that tenant-mix was the most among all other factors influencing overall attractiveness of retail agglomerations. However, the newest evidence brought by Singh and Prashar (2013) showed that "marketing" (including a tenant-mix) is third in line to constitute the overall shopping experience, after ambiance and convenience; El Heldhi et al. (2013) discovered that "functionality" (which included a tenant-mix) is the fourth constituent of shopping well-being.

The design

Other factors such as shopping mall design, are also ambiguous when it comes to their importance as drivers of perception. Early studies, for example, Bellenger et al. (1977) showed that attractive décor was moderately but significantly correlated to shopping center patronage. Then Bellenger and Korgaonkar (1980) discovered that shop décor is a highly valued feature of shopping, especially by recreational shoppers (active, social, information seeking individuals). Wakefield and Baker (1998) revealed a mall's design as the most important factor predicting the "excitement" in its being visited, and its décor as the most important driver of the "desire to stay". Raajpoot, Sharma and Chebat (2008) discovered that design is one of the most important environmental factors of overall shopping mall evaluation as well as of the emotional response. Surprisingly, the most recent authors did not take the design and décor explicitly into account (Singh & Prashar, 2013); and if they even partially did, as layout-related variables (El Hedhli et al., 2013), the design and décor turned out clearly not to be of prime importance to a mall's perception. It should also be noted that, in some concepts, widely defined décor is treated as an indicator of atmosphere (cf. Chebat et al., 2010; Kotler, 1973).

Shoppers' individual traits and demographics

Hedonism-utilitarianism

Another group of correlates to perceived shopping environment attractiveness, although lying beyond the environment and not being my article's focus, is the whole universe of the users' individual traits . Among the most studied is hedonism-utilitarianism as a personal value (Arnold & Reynolds, 2003; Babin et al., 1994; Bloch et al., 1994; Jones et al., 2006; Roy, 1994; Wagner, 2007). It is already known that shoppers could be task-oriented or leisure oriented (Bloch et al., 1994), and such an orientation could decide whether we are more or less prone to like the shopping mall environment in general. Hedonic shoppers highly appreciate shopping malls because these environments offer a high leisure and experiential capability. An interesting finding, at least for this article, was that the pleasant store atmosphere could be vital not only to hedonic, but also to utilitarian shoppers (Wagner, 2007) as well as to utilitarian and hedonic shopping value in general retail (Rayburn & Voss, 2013). By the way, atmospheric experience turned out to be one of the most important positive shopping mall drivers in adolescent girls' narratives (Haytko & Baker, 2004), as it was in my study regardless of gender (see Shopping mall attractiveness in structural equation modelling).

Other shoppers' personal values

There were also noticeable attempts to link the perceived store image and seeking for improvement to the customer's life quality (Thompson & Chen, 1998b), or perceived store image and the pursuit for comfort, and excitement, pleasure, and social recognition (Erdem, Oumlil, & Tuncalp, 1999). The more a shopper pursued social recognition, the more the store status was important to him or her; conversely, the more a shopper valued, for example, intellect, logic and independence, the less he or she valued store status (Erdem et al., 1999).

Others researchers investigated the relationship between consumer self-identification (Hirschman & Stampfl, 1980), social life (Thompson & Chen, 1998a) or social affiliation and self-actualizing values and shopping environment patronage (Shim & Eastlick, 1998). In general, the shoppers who place stronger emphasis on social affiliation were more likely to have a favorable attitude toward shopping malls than those with weaker values. Similar research was conducted by Swinyard (1998) - he discovered that people having higher needs for a sense of belonging, warm relationships with others, and security are more likely than others to be heavy mall visitors. He had also shown that there was a positive link between consumer pursuit after 'excitement' and 'fun and enjoyment' to the frequency of visits. Cai and Shannon (2012a; 2012b) discovered that among Chinese shoppers self-transcendence and self-enhancement were positively related to mall attitude; so was the openness to change in the Thai sample. Such an attitude was positively related to the shopping intention, and the intention was related not only to shopping frequency, but also to the time and money spent in the mall.

In the latest research Telci (2013) investigated materialism, and reported that people who visit shopping malls frequently and enjoy spending time there reported higher materialistic values and engaged in greater compulsive consumption.

Gender

Gender is one of the most extensively explored demographic differences in shopping studies to date. The well-founded knowledge (Hart, Farrell, Stachow, Reed, & Cadogan, 2007) is that men and women shop for different reasons, are driven by different environmental cues throughout shopping, experience shopping environments in different ways, and have different attitudes towards shops and shopping. It is also assumed that men and women differ in frequency of shopping, and amount of money spent in shops; moreover, they spend them for different things and activities. Results of various research including the newest described below, although not univocal, suggest that such assumptions are reasonable.

Campbell (1997) argued that women are more likely than men to express positive attitudes toward shopping; he contended that it is not uncommon for women to 'love'

shopping, as opposed to men who often declare 'hatred' in describing the shopping experience. According to Campbell's (1997) qualitative studies men are centered more on inevitable needs and "work to do" when going shopping, whereas shopping for women is more about desires, cravings and a specific form of leisure; men are more utilitarian, women are more recreational shoppers. The quantitative evidence for the latter is weak though, if not contrary. For example Kuruvilla, Joshi, and Shah (2009) saw no difference in utilitarian-hedonic attitudes to shopping across Indian men and women. Kotzé, North, Stols, & Venter (2012) discovered that men, comparable to women, like to do shopping for entertainment. Jackson, Stoel and Brantley (2011) demonstrated that even though the hedonic shopping value is more important to women, the utilitarian shopping value is important to both men and women.

Nonetheless, the motives of men's and women's shopping may be different indeed. The recent evidence presented by Kotzé et al. (2012) indicated that women go shopping for gratification and sensory stimulation, to relieve stress and reward themselves moreso than men. Women also declared that they do shopping for others more than did men. Women shoppers were seeking for uniqueness and browsing far moreso than men (Noble, Griffith, & Adjei, 2006) at local merchants; they were also motivated by social interaction slightly more than men. The newest research by Gąsior and Skowron (2014) reported different utilitarian purposes of shopping in shopping malls according to gender. Women visited a mall for clothing, cosmetics and jewellery more frequently than men did; conversely, men were more frequently interested in electronics and household appliances.

Women may be sensitive to different stimuli than men when shopping in the mall, and may be allured by different features of the shopping environment. Raajpoot et al. (2008) reported that women were driven by employee behavior, product assortment and accessibility moreso than men in their evaluation of a shopping center. They seem to be more sensitive to environmental aspects of store attributes, hygiene, and entertainment (Jackson et al., 2011). Women also valued different features than men in groceries (Mortimer & Clarke, 2011); in general women praised mostly highest discounts, promotions, prices and hygiene, whereas men valued quickness of finding what they wanted. All the latter stimuli, which meet specific utilitarian needs, differ in women and men.

Finally, women seem to declare more general enjoyment in shopping than did men, as shown, for example, in the studies by Haian and Jasper (2004), Kuruvila et al. (2009) or Kotzé et al. (2012), which constitute a quantitative support for Campbell's (1997) insights obtained from in-depth interviews. Also evidence exists, albeit limited, that women are more loyal shoppers than men (Noble et al., 2006) and more frequent visitors to retail venues (Pan & Zinkhan, 2006). However, Torres, Summers and Belleau (2001) reported that the majority of men were satisfied with their shopping experience, Raajpoot et al.

(2008) and showed that there were no differences between them and women either in overall or emotional evaluation of a shopping center; Kuruvilla et al.(2009) demonstrated that in Indian shopping malls, contrary to popular western beliefs, men were more frequent shoppers, spending there more time and money than women did. These findings are opposite to, for example, Campbell's (1997) arguments and common knowledge about gender-related aspects of shopping. Furthermore, both women and men were equally prone to re-patronize a shopping center based upon their overall evaluation of it (Raajpoot et al., 2008), albeit earlier Hart et al. (2007) discovered that men were more likely than women to re-patronize a shopping district if they enjoyed the shopping experience there before.

The general impression is that men and women are probably somewhat different shoppers. The differences are often minor though; evidence is somewhat mixed. Therefore any general conclusions should be drawn very cautiously. Nevertheless, the evidence suggesting some gender differences in shopping is strong enough that gender should be taken into account at least as a grouping variable whenever the model of shopping-related preferences and behavior is to be developed.

Research question

Summing up the results of research to date, it can be hypothesized that all drivers of a shopping environment's overall attraction (variously defined and operationalized) mentioned above could collectively constitute the foundations of shopping mall attractiveness. The relative importance of one or another driver could be undoubtedly different according to a particular situation, shopper motivation, and personal traits. Notwithstanding the above-mentioned great efforts made by researchers from all over the world to investigate mall visitors' experiences and attitudes, one fundamental question has not been universally answered yet:

"Which various shopping mall qualities are crucial to a mall's attractiveness and how do they contribute?"

In order answer this question I decided to base it on Ng's (2003) theoretical model enriched by the newest reviews and findings, primarily either by El Hedhli et al. (2013) or Singh and Prashar (2013). In theory emerging from such a model, shopping mall attractiveness could be the result of: aesthetic experiences, stimulation (auditory, olfactory, and tactile), functional layout, pleasant architecture, navigational aids, seating, tenant variety, general complexity, atmosphere, convenience, leisure potential and perceived security. It should be also reinforced by the social component, that is: the presence of people desired either for coexistence or even to associate with (called "social positioning" further in this article). They are, in fact, features similar to those known as driving the positive appraisal of a great public space in general (Carmona, 2010; Gehl, 2013).

Some aforementioned constructs are overlapping, some are very difficult to operationalize unless a proper experiment is introduced (e.g. auditory and olfactory stimulation). My attempt at definition and operationalization of such concepts are proposed in details in the research method.

Hypotheses

The following predictions corresponding with the research question were proposed:

H1. There is a set of factors significantly affecting shopping mall attractiveness, which includes: aesthetics, atmosphere, convenience, commercial capability, layout, leisure potential, perceived safety, and social positioning.

I decided not to build any particular hierarchy of factors a priori. The up to date findings were mixed, the outcome variables and predictors varied, and particular research settings were often incomparable. Therefore I assumed that each the factor mentioned in H1 contributes equally to mall attractiveness. Thus, the second hypothesis was:

H2. Aesthetics, atmosphere, convenience, commercial capability, layout, leisure potential, safety, and social positioning are equally important drivers of shopping mall attractiveness.

The research gap here is obvious. First – as has been argued above – certain studies, cited above, showed some schemes but they also brought rather divergent results. Furthermore, many were also highly business oriented (in terms of constructs tested – e.g. purchase behavior, impulse buying etc.). Additionally, all the cited studies were more or less limited, as the authors widely recognized the need to verify their results in different countries, populations and settings (e.g. El Hedhli et al., 2013; Massicotte et al., 2011; Singh & Prashar, 2013; Teller & Reutterer, 2008). Finally – there are no well-known systematic environmental psychology studies on perception of shopping malls in Central Europe. Not only is the shopping mall here a new urban landscape element and a newfangled built environment, not older than twenty years; nowadays it is also present in a majority of modern post-communist cities, as well as in their inhabitants' lifestyles (Spilková, 2012).

There are also hypotheses regarding gender. As mentioned above, it is highly probable that women and men think differently about shopping and shopping environments. It also possible that they are attracted to a particular shopping environment by its different features. Such assumptions were also present in Ng's model (2003) where demographics indirectly affected shopper needs. Results of research on these topics are ambiguous; therefore, four two-sided hypotheses were proposed:

H3. The set of factors significantly affecting shopping mall attractiveness is different in women's and men's declarations.

H4. The hierarchy of factors affecting shopping mall's attractiveness is different for women and men.

H5. Women and men differ in their general appraisal of shopping malls.

H6. Women and men differ in frequency of visits to shopping malls.

Research Method

A cross-sectional study was conducted in Wroclaw, Poland, to test the hypotheses outlined above. The research project started in November 2012, and ended in January 2014.

Participants and sampling

Participants included 384 individuals (192 men and 192 women) with mean age of 24 years (ranging from 18 to 64, *SD* = 5.52). The group comprised students from various faculties of Wroclaw University of Technology (N = 138), Wroclaw University of Environmental and Life Sciences (N = 17), as well as from the Psychology Institute at the University of Wroclaw (N = 16), and Wroclaw School of Banking, its Management and Finance faculty (134 full time students and 79 part-time students).

One in four participants came from cities (> 500,000 inhabitants). Ten percent came from big towns (100,000-500,000 inhabitants). Another 30% came from mid-sized towns (10-100,000 inhabitants). Over one-third of the participants (35%) originally came either from villages or very small towns (<10,000 inhabitants). At the time of this study about two-thirds of the participants (65%) were city dwellers.

Twelve percent of the participants declared visiting a particular mall once a week or more. About one-third (34%) declared visiting a particular mall at least a few times in a month. Most participants (39%), however, declared visiting a particular mall a few times in a year, and 19% at the most two times in a year or less. Only seven percent admitted they hardly ever visited the mall.

Materials and procedure

The survey was conducted in various locations; with the vast majority of questionnaires carried out in lecture rooms at participants' respective colleges, and none in a shopping mall. Participation was entirely voluntary. No physical incentives were used. As there were six malls to be assessed with one participant evaluating only one object, each person was randomly assigned by the researcher or his assistants to one of six groups; then he or she was requested to express their opinion about various aspects of a particular mall in a questionnaire and, to provide information about their frequency of visit. There was a filtering question before a person started to fill in the questionnaire – "do you know the …[name]… shopping mall". If not, the respondent was given another shopping mall to assess. In case he or she did not know any of the six investigated shopping malls, the

procedure stopped and a research assistant thanked him or her for participating and proceeded to another participant. The procedure took approximately 20 minutes.

The questionnaire comprised 58 items in total. Eight items were expected to measure the shopping mall's appraisal, one to measure the frequency of visit, and 49 items to measure its eight hypothetical predictors (see sections 6.2.1 and 6.2.2 for details). The eight items to measure appraisal were seven-point Likert-type items (anchored by "not agree at all" and "agree completely"). All the 49 predictors were measured by Likert-type items: statements regarding specific aspects of the mall, ready to be assessed on 7-point subscales (anchored by "not agree at all" and "agree completely"). The frequency of visit was measured on a five points ordinal scale, from "never or hardly ever" to "once a week or more". The questionnaire also included a few fields for a respondent's particulars including gender, age and domicile. Also added to the procedure was a separate questionnaire of personal values based on Max Scheler's philosophy and conceptualization developed by Brzozowski (1995). However, as it is not in the scope of this report, it will not be presented in detail.

The hypothetical outcome variable: attractiveness.

As already mentioned, attractiveness is understood as the capacity of an environment to be perceived in a way that induces positive emotions, positive cognitive appraisal, and capacity to encourage people to approach or enter.

Therefore it was assumed that attractiveness has three implicit aspects: cognitive appraisal, emotional impact and attraction force (reflected by people's "voting with their feet" – frequency of visit in a particular mall). Three indexes were developed in order to measure them, hypothetically reflecting the above-mentioned constructs: six-item cognitive and two-item emotional assessment as well as frequency of visit index (see Table 9 for detailed list of related questions).

The cognitive dimension was measured by answers to questions about the participants' judgments concerning how a particular mall fulfills their needs, how good a particular shopping mall is compared to similar malls, and its potential recommendation to the participant's relatives.

Emotional impact of a particular shopping mall was measured by answers to questions about how much a participant liked the mall and how emotionally close the mall was to the participant.

The attracting force was measured by the ordinal frequency of visits scale to a particular mall (how often does the participant visit a particular mall).

The final outcome variable – attractiveness – was hypothesized to be an unobserved endogenous variable reflected by the observed appraisal (including emotional & cognitive assessment), and the frequency of visit to a particular mall.

The hypothetical predictor variables: indexes of specific features of a mall

In order to capture the potential predictors of mall attractiveness, eight hypothetical perception indexes of specific features of a mall's environment were developed. Particular measures were inspired mainly by the works of El Hedhli (2013).

Each index hypothetically reflected its relevant concept: aesthetics, atmosphere, convenience, commercial capability, layout, leisure potential, perceived safety, and social positioning. The complete list of hypothesized indexes and their respective items are presented in Table 1.

Table 1. *Expected Measures Of Predictor Variables.*

Feature		Statement assessed by participants
Aesthetics		This mall is aesthetic
		This mall is ugly*
Atmosphere		I like the atmosphere in this mall
		There is friendly staff in this mall
		This mall is boring*
		This mall is cosy
		This mall is overcrowded *
		This mall is full of commotion*
		This mall is oppressive*
		This mall radiates a positive atmosphere
	†	The restrooms in this mall are overcrowded*
Commerce		I rate the quality of the service in this mall as high
		Merchandise in this mall is usually up-to-date
		Most of the products found in this mall are well-known brands
		Most of the shops in this mall carry new style products
		Most of the shops provide high quality merchandise
		Quality of merchandise in this mall is rather low*
		Shops in this mall are well stocked
		Shops in this mall provide an accurate assortment of products
		People who work at this mall are courteous
		There are good brands present in this mall
		There are enough stores in this mall
	†	Most of the products in this mall have a great value for money
	†	Most of the stores in this mall have good sales

	†	This mall lacks specialized shops*
Convenience	†	Parking in this mall is easy
	†	The opening hours of this mall are fine
	†	The restrooms are easily accessible in this mall
	†	There is a problem with parking *
	†	This mall is close to my home
	†	This mall is near my workplace
Layout		It's easy to move around this shopping mall
		This mall is chaotic*
		This mall is designed clearly
		This mall is legible
		This mall is simple
		This mall is spacious
		This mall is well planned architecturally
	†	This mall is big
	†	The restrooms are well designed in this mall
Leisure		I enjoy visiting this mall as if it were good entertainment
		There are a lot of entertainment facilities in this mall
		This mall is great when it comes to entertainment
	†	Restaurants in this mall (including fast food) are good
	†	There are good cafés in this mall
Safety		I think people feel safe in this mall
		This mall is a safe place
Social positioning		I can identify myself with people who shop in this mall
		People who shop in this mall are somehow similar to me

Note. The statements were assessed by participants on seven-item Likert type positions. Twenty-eight items were finally used in modelling after verification of the measurement model.

† items excluded on the basis of the initial correlation matrix analysis prior to principal component analysis

* inversed measures

Aesthetics

Aesthetics was defined as a judgment with beauty and ugliness as central paradigms (Zangwill, 2013). Hypothetical indicators of the construct were answers to questions related explicitly to aesthetics of a particular mall and its ugliness.

Atmosphere

Atmosphere was defined as a holistic cognitive-emotional impression and multisensory judgment, immediate experience of many factors (material architectural qualities such as materials, proportions, rhythms, coloring as well as temperature, light, scent, sound, harmony, other people being present, etc.), leading to induce a specific mood (Havik et al., 2013). Concept indicators were answers to questions related explicitly to a mall's atmospheric assessment (e.g. "I like its atmosphere and great ambiance"), crowding, commotion, employee assessment and what kind of mood the mall ultimately induces.

Commercial capability

This was defined as the effect of people's assessment in its actual tenant-mix (excepting entertainment establishments, restaurants and cafes), availability of desirable merchandise, customer service quality, impressions on value for price ratio and image of existing brands. The concept was indicated by using tenant, brand and product range related questions.

Convenience

Convenience is a concept related to reducing a shopping mall's visitor stress generated by the desire to find particular amenities, products and services easily (Wagner, 2007); it is also related to the physical distance from shoppers' homes or workplaces and the mall's general accessibility (El Hedhli et al., 2013; Singh & Prashar, 2013). Indicators of convenience consisted in answers to questions related to a mall's closeness to a participant's home, its general accessibility (in the context of physical localization), car park assessment, toilet availability, how easy it is to find products, and the mall's opening hours.

Layout

Layout is related to a visitor's mental reflection of a mall's general clarity: legibility, spatial order, and overall spatial design quality. Concept indicators were answers to questions about a particular mall's above-mentioned features.

Leisure potential

Leisure potential is a concept reflecting an assessment of a mall's amenities serving visitors' various needs; starting from hedonic, such as good entertainment (Arnold & Reynolds, 2003), through the need to eat and drink and ultimately to meeting friends, sitting and looking around. The hypothetical importance of leisure to shopping venue attractiveness was demonstrated by many researchers. For example, Sit, Merrilees and Birch (2003)

discovered that amenities related to leisure and entertainment were critical to shopping mall image. El-Adly (2007) revealed that entertainment was the second of six significant mall attractiveness factors. Entertainment oriented shoppers are probably younger, and more likely to be visiting shopping malls as a family compared to all other groups of shoppers (Haynes & Talpade, 1996). The newest findings by Swamynathan, Mansurali, and Chandrasekhar (2013) revealed that entertainment in malls was one of the most important factors which triggered so-called "mall mania" among Indian customers (as the authors noted: "... their preference towards the mall is spreading like a mania", p.37).

Leisure was indicated by answers to questions about experiences of cafés and restaurants in the mall, entertainment facilities, and whether the mall was a good place to hang out and to have a good time with friends.

Perceived safety

A dictionary definition of safety was used: the state of being safe – although subjectivity of this state was emphasized. It was diagnosed by two questions: whether a particular mall was a place where the participant felt safe, and whether he or she thinks other people perceive the mall as a safe place.

Social positioning

Social positioning of a particular shopping mall was formed by a mall visitor's general impression about people who usually visit the mall, predictions about who can be expected there and to what extent these people were similar to the person surveyed. Concept indicators constituted answers to questions about the impressions people had when visiting the mall and the level of a participant's self-identification with them.

The assessed shopping malls

I investigated six relatively new shopping malls. They were all located around the center of Wroclaw, Poland – one to three kilometers from the market square, the city hall, and the city's historic center. Three were chosen in 2011as the most popular Christmas shopping destinations in Wroclaw (eGospodarka.pl, 2011). While all six are modern shopping centers, with each featuring over 100 stores and services as well as a large number of parking places (see Appendix A, Table A1), they differ in design and origins. These significant differences between evaluated malls were clearly perceived by participants and captured during this study, but as they are not within the scope of this report, only a simple comparison based on measures used in this study is briefly presented in Appendix A (Table A2).

Results

Verification of Measurement Model
Outcome indicators

It was assumed that attractiveness, a latent variable, loads three observed variables (indexes) – two appraisal indexes (cognitive and emotional dimensions), and the attraction force index measured by frequency of visits to the mall (five-point ordinal scale item).

The appraisal – principal component analysis and factorial index

To verify the above-mentioned assumption, a principal component analysis – including eight items expected to measure two dimensions of the appraisal (see Table 9) – was performed first. The Kaiser-Meyer-Olkin measure of sampling adequacy for the analysis was .92 (i.e. "superb", according to Field, 2009), and all KMO values for individual items were > .90, which is extremely good (Field, 2009; Bedyńska & Cypryańska, 2013). The Bartlett test of sphericity $\chi^2(28) = 1540.48$, $p < .001$ indicated that correlations between items were sufficiently large for PCA. The analysis revealed that one component had an eigenvalue over Kaiser's criterion of 1 and it explained 58% of the variance. It definitely appeared that the appraisal was a one-dimensional index.

In order to fine-tune the measure, two items poorly correlated with other variables forming the index (extracted communalities below .05) were removed, as shown in Table 9. Such adjustment improved the explained variance. The six-item, one-dimensional index accounted for 65% of variance. The index reliability was excellent ($\alpha = .89$). The factorial appraisal index (APP) was formed using factor score coefficients.

Attractiveness – a model of the central latent variable

As mentioned earlier, attractiveness was assumed to be a latent variable loading appraisal and frequency of visit. The structural equation modeling was performed to check whether such a hypothesis would meet the actual data. The model showed a great fit to the data: $\chi^2 = 21.16$, $df = 13$, $p = .06$; CMIN / DF = 1.62 and RMSEA = .04, $p = .66$. Hence, attractiveness was indeed captured by two measures: both appraisal index (six items, one-dimensional, factorial) and frequency of visit index (one item, ordinal scale), moderately correlated with each other ($r_s = .47$ $p < .001$).

The predictors

The theoretical and empirical background support the hypothesis that there are at least eight predictors of the shopping mall attractiveness: aesthetics, atmosphere, convenience, commercial capability, layout, leisure potential, perceived safety, and mall-specific social positioning. The complete list of 49 items expected to measure these features of the mall are listed in Table 1. To verify the above-mentioned theoretical assumption about the presence of eight coherent potential predictors, and to check whether all the items were adequate to the respective dimensions, three fundamental steps have been

taken: correlation matrix analysis, principal component analysis, and factorial structure development. Finally, proper items were assigned to verified constructs, and relevant factorial indexes were created.

The initial analysis of correlation matrix

A correlation matrix for all items was generated. Due to skew distributions of the results, Spearman's rho was used. Items which correlate at the minimum $r_s = .40$ with at least one rest item were included in further analysis. According to Field (2009), as a rule of thumb, the item should be included in factor analysis when it correlates with other items having at least $r = .30$. I tightened this rule in my study and only stronger relationships were accepted, within the threshold for "moderate" correlation according to Dancey and Reidy (2011).

Fourteen items were excluded. They are indicated in Table 1. All the items theoretically measuring shopping mall "convenience" turned out highly irrelevant, along with a few items potentially measuring commercial capability and restroom assessment.

Principal component analysis – assessing the multidimensional mall features

Principal component analysis was performed on 35 items. The Kaiser-Meyer-Olkin measure of sampling adequacy was .91 ("superb" according to Field, 2009; and "very high" according to Bedyńska and Cypryańska, 2013), and all KMO values for individual items were > .67, which is above the acceptable .50 limit (Field, 2009, Bedyńska and Cypryańska, 2013). The Bartlett test of sphericity $\chi^2(595) = 7090.21$, $p < .001$ indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Seven components had eigenvalues over Kaiser's criterion of 1 and in combination explained 63% of the variance. The statistics seemed sound and as seven components were accepted for further considerations, even if a result was contradictory to presumptions about the number of the shopping mall attractiveness predictors emerging from the literature review.

Principal axis factoring – factorial development of a mall's structure features

The best way to obtain a high relationship between factors and items when the results are not distributed normally is to use principal axis factoring (Bedyńska and Cypryańska, 2013). This method along with oblique rotation (promax) was used as the factors underlying measured malls' features could be theoretically correlated.

The factorial structure seemed reasonable except for seven items which were loaded between λ .40 and .50 (see Table 2); this means that less than 25% of individual variance was uniquely explained by the related factor. Although Field (2009) recommends a $\lambda = .40$ threshold to consider leaving the items in the structure, in this study it was tightened, particularly because all the items were also simultaneously loaded by more than one factor (see the structure matrix in Table 3). As a result, seven items were removed from the model.

Table 2. *Initial Factorial Structure Of Malls' Features. Pattern Matrix*[a].

	Factor						
	1	2	3	4	5	6	7
There are good brands present in this mall	**.77**	.06	-.06	.01	.04	.07	.07
Most of the products found in this mall are well-known brands	**.73**	.05	-.15	.10	.04	.02	-.06
Merchandise in this mall is usually up-to-date	**.69**	.00	.17	.01	.01	-.06	-.14
Most of the shops provide high quality merchandise	**.66**	-.01	-.06	-.08	.09	.30	.06
Most of the shops in this mall carry new style products	**.62**	-.03	.30	-.04	-.17	-.16	.08
Shops in this mall are well stocked	**.55**	.00	-.02	.03	.21	-.10	.00
† Quality of merchandise in this mall is rather low*	**.41**	.01	-.01	-.03	.15	.33	-.09
† Shops in this mall provide an accurate assortment of products	**.32**	.00	.29	.09	-.01	-.17	.10
This mall is simple	.05	**.97**	-.32	.06	-.04	-.21	.04
This mall is legible	.10	**.70**	.12	.04	-.02	-.06	-.06
It's easy to move around this shopping mall	-.02	**.60**	.27	-.03	.04	-.02	-.04
This mall is chaotic*	.07	**.59**	.08	-.02	-.12	.24	-.03
This mall is designed clearly	-.16	**.58**	.15	-.17	.11	.02	.18
This mall is ugly*	.11	.05	.73	-.01	-.15	.17	-.09
This mall is boring*	.07	-.05	**.69**	.18	-.18	-.11	.00
This mall radiates a positive atmosphere	-.03	-.02	**.68**	.19	.09	-.01	-.05
I like the atmosphere in this mall	-.02	.12	**.62**	.23	.03	-.08	.04
This mall is cosy	-.14	.13	**.62**	.05	.14	-.05	-.05
This mall is oppressive*	-.08	.08	**.61**	.19	.00	.27	-.08
† This mall is well planned architecturally	.05	.35	**.49**	-.07	.07	-.09	-.10
† This mall is aesthetic	.14	.16	**.44**	-.19	.08	.14	.07
† This mall is spacious	-.08	.11	**.31**	-.19	.15	.11	.23
People who shop in this mall are somehow similar to me	-.07	-.09	.13	**.66**	.12	.03	.05
I can identify myself with the people who shop at this mall	.12	-.02	.04	**.56**	.05	-.01	-.02
† I enjoy visiting this mall as it was a good entertainment	.08	.05	.11	**.48**	-.02	.03	.19
The people who work at this mall are courteous	.15	.00	-.12	-.01	**.80**	-.08	-.07
There is friendly staff in this mall	.22	-.09	-.09	.01	**.68**	-.08	.06
This mall is a safe place	-.06	.14	.09	.09	**.62**	.03	-.04
I rate the quality of the service in this mall as high	.23	-.04	-.01	.05	**.54**	.04	.05
I think people feel safe in this mall	-.04	.06	.12	.10	**.52**	.04	.00
This mall is overcrowded *	-.03	-.12	-.01	-.07	-.01	**.81**	.15
This mall is full of commotion*	.05	-.02	.10	.10	-.06	**.70**	-.01
† There is enough of stores in this mall	.20	-.13	.35	-.13	.04	-.42	.21
There is a lot of entertainment facilities in this mall	.00	-.01	-.07	.01	.01	.05	**.77**
This mall is great when it comes to entertainment	-.02	.09	-.07	.31	-.08	.10	**.72**

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

† items removed from further analysis due to low factor loading (variance explained by unique factor) and equivocality. * inversed measures.

[a] Rotation converged in 12 iterations.

Table 3. *Initial Factorial Structure Of Malls' Features. Structure Matrix*[a].

	Factor						
	1	2	3	4	5	6	7
There are good brands present in this mall	.81	.32	.50	.22	.55	.16	.35
Merchandise in this mall is usually up-to-date	.74	.28	.50	.20	.48	.04	.20
Most of the shops provide high quality merchandise	.71	.30	.41	.09	.55	.36	.25
Most of the shops in this mall carry new style products	.69	.23	.53	.23	.33	-.12	.39
Most of the products found in this mall are well-known brands	.68	.21	.34	.20	.44	.08	.20
Shops in this mall are well stocked	.67	.22	.40	.19	.51	.00	.26
† Shops in this mall provide an accurate assortment of products	.52	.26	.51	.32	.35	-.09	.38
† Quality of merchandise in this mall is rather low*	.49	.30	.33	.07	.47	.41	.07
This mall is legible	.35	.77	.59	.26	.41	.22	.19
It's easy to move around this shopping mall	.32	.76	.64	.23	.45	.27	.20
This mall is simple	.16	.71	.32	.17	.24	.07	.14
This mall is chaotic*	.23	.69	.47	.15	.31	.45	.11
This mall is designed clearly	.20	.68	.51	.10	.40	.27	.28
I like the atmosphere in this mall	.45	.56	.81	.55	.46	.09	.44
This mall radiates a positive atmosphere	.43	.48	.75	.47	.46	.14	.33
This mall is ugly*	.43	.53	.73	.30	.38	.31	.24
This mall is oppressive*	.33	.57	.71	.43	.42	.42	.24
† This mall is cosy	.33	.54	.69	.33	.45	.16	.27
† This mall is well planned architecturally	.42	.64	.69	.22	.48	.16	.21
This mall is boring*	.38	.34	.65	.46	.23	-.03	.36
† This mall is aesthetic	.49	.55	.65	.13	.52	.32	.29
† This mall is spacious	.28	.40	.47	.08	.39	.24	.33
People who shop in this mall are somehow similar to me	.22	.21	.41	.71	.25	.06	.34
† I enjoy visiting this mall as it was good entertainment	.33	.30	.48	.63	.26	.07	.45
I can identify myself with the people who shop at this mall	.29	.20	.37	.60	.23	.02	.27
The people who work at this mall are courteous	.54	.30	.36	.09	.78	.14	.14
There is friendly staff in this mall	.58	.24	.39	.15	.72	.08	.27
This mall is a safe place	.42	.49	.52	.25	.71	.27	.20
I rate the quality of the service in this mall as high	.57	.31	.44	.20	.69	.20	.27
I think people feel safe in this mall	.39	.41	.48	.25	.62	.23	.22
This mall is overcrowded *	.03	.17	.09	-.04	.18	.75	.04
This mall is full of commotion*	.14	.31	.26	.14	.24	.70	.03
This mall is great when it comes to entertainment	.26	.26	.41	.56	.19	.06	.79
There are a lot of entertainment facilities in this mall	.25	.13	.29	.27	.18	.00	.74
† There are enough stores in this mall	.40	.04	.36	.13	.21	-.38	.40

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

† items removed from further analysis due to low factor loading (variance explained by unique factor) and equivocality. * inversed measures.

[a]. Rotation converged in 12 iterations.

After the factorial model modification (.90 KMO), the Bartlett test of sphericity $\chi^2(378) = 5475.35$, $p < .001$ and all KMO values for individual items were > .74. Seven factors explained 57% of total variance and were inter-correlated (see Table 6). This structure seemed reasonable (see Table 4 and 5); hence the model was accepted and seven reliable factorial indexes were formed: atmosphere (ATM), commerce (COM), entertainment (ENT), human resources & safety (HRS), layout (LAY), stressors (STR), and social positioning (SOC) (see Tables 8 and 9 for the list of indexes along with their respective reliability coefficients and other descriptive statistics as well as related items), based on obtained factor score coefficients (see Table 7).

Table 4. *Final Factorial Structure Of Malls' Features. Pattern Matrix*[a].

	Factor						
	1	2	3	4	5	6	7
Merchandise in this mall is usually up-to-date	**.75**	.15	-.02	-.01	-.09	-.12	.01
There are good brands present in this mall	**.71**	-.05	.04	.09	.08	.09	-.02
Most of the shops in this mall carry new style products	**.70**	.14	.03	-.17	-.13	.05	.06
Most of the products found in this mall are well-known brands	**.67**	-.07	-.02	.08	.03	-.02	.02
Most of the shops provide high quality merchandise	**.61**	.04	-.08	.13	.25	.09	-.19
Shops in this mall are well stocked	**.55**	.00	-.01	.22	-.08	.01	.00
This mall radiates a positive atmosphere	-.01	**.90**	-.15	.10	-.07	.04	-.08
I like the atmosphere in this mall	.02	**.72**	.06	.04	-.11	.09	.05
This mall is cosy	-.09	**.71**	.09	.15	-.09	.00	-.11
This mall is boring*	.15	**.67**	-.03	-.18	-.13	.03	.11
This mall is oppressive*	-.06	**.63**	.08	.01	.27	-.07	.08
This mall is ugly*	.20	**.56**	.11	-.13	.15	-.10	.03
This mall is simple	-.03	-.21	**.90**	.00	-.17	.06	.00
This mall is legible	.07	.13	**.67**	.01	-.06	-.03	.01
This mall is designed clearly	-.08	.03	**.64**	.10	.03	.08	-.05
This mall is chaotic*	.04	.00	**.63**	-.08	.25	-.04	.00
It's easy to move around this shopping mall	.00	.21	**.60**	.06	.02	-.05	-.02
People who work at this mall are courteous	.17	-.12	.04	**.75**	-.07	-.10	.04
There is friendly staff in this mall	.25	-.16	-.02	**.63**	-.05	.03	.12
This mall is a safe place	-.09	.24	.08	**.61**	.03	-.01	-.03
I rate the quality of the service in this mall as high	.23	-.01	-.01	**.53**	.05	.03	.05
I think people feel safe in this mall	-.06	.25	.02	**.51**	.04	.02	-.01
This mall is overcrowded *	-.05	-.14	-.06	.01	**.86**	.08	-.04
This mall is full of commotion*	.03	.01	.02	-.05	**.72**	-.06	.11
This mall is great when it comes to entertainment	-.02	.06	.07	-.08	.04	**.77**	.14
There are a lot of entertainment facilities in this mall	.05	.00	.00	.00	.00	**.76**	-.09
I can identify myself with people who shop in this mall	.07	-.09	.03	.04	.03	-.04	**.79**
People who shop in this mall are somehow similar to me	-.14	.18	-.10	.12	.05	.07	**.62**
Eigenvalues	9.29	2.67	2.05	1.58	1.21	1.18	.97
% of variance	33.20	9.56	7.34	5.66	4.33	4.22	3.44

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

* inversed measures.

[a] Rotation converged in 12 iterations.

Table 5. *Final Factorial Structure Of Malls' Features. Structure Matrix*[a].

	Factor						
	1	2	3	4	5	6	7
There are good brands present in this mall	**.79**	.44	.33	.55	.24	.30	.25
Merchandise in this mall is usually up-to-date	**.77**	.44	.28	.45	.07	.15	.27
Most of the shops in this mall carry new style products	**.69**	.44	.27	.31	.01	.29	.35
Most of the shops provide high quality merchandise	**.69**	.38	.28	.54	.38	.24	.08
Most of the products found in this mall are well-known brands	**.68**	.31	.21	.44	.14	.18	.20
Shops in this mall are well stocked	**.66**	.35	.25	.52	.08	.21	.22
I like the atmosphere in this mall	.47	**.82**	.57	.42	.19	.41	.49
This mall radiates a positive atmosphere	.44	**.80**	.46	.43	.22	.34	.39
This mall is oppressive*	.34	**.76**	.59	.39	.50	.22	.39
This mall is cosy	.34	**.71**	.54	.42	.21	.25	.28
This mall is ugly*	.45	**.70**	.54	.33	.36	.18	.35
This mall is boring*	.39	**.66**	.38	.20	.06	.32	.46
It's easy to move around this shopping mall	.34	.62	**.77**	.41	.33	.15	.23
This mall is legible	.36	.60	**.77**	.38	.25	.17	.26
This mall is simple	.16	.35	**.70**	.23	.09	.13	.13
This mall is chaotic*	.24	.48	**.70**	.28	.47	.10	.15
This mall is designed clearly	.23	.48	**.68**	.35	.29	.19	.15
People who work at this mall are courteous	.54	.31	.30	**.78**	.16	.09	.16
There is friendly staff in this mall	.58	.32	.25	**.72**	.14	.22	.26
This mall is a safe place	.42	.53	.47	**.71**	.31	.20	.21
I rate the quality of the service in this mall as high	.56	.40	.32	**.68**	.25	.23	.24
I think people feel safe in this mall	.39	.49	.40	**.62**	.28	.21	.22
This mall is overcrowded *	.03	.11	.16	.17	**.79**	.06	-.07
This mall is full of commotion*	.16	.30	.30	.22	**.72**	.06	.13
This mall is great when it comes to entertainment	.27	.44	.27	.18	.14	**.84**	.48
There are a lot of entertainment facilities in this mall	.25	.27	.14	.18	.07	**.74**	.24
I can identify myself with people who shop in this mall	.31	.39	.21	.22	.07	.29	**.77**
People who shop in this mall are somehow similar to me	.22	.46	.21	.24	.12	.37	**.70**
Eigenvalues	9.29	2.67	2.05	1.58	1.21	1.18	.97
% of variance	33.20	9.56	7.34	5.66	4.33	4.22	3.44

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

* inversed measures.

[a] Rotation converged in 12 iterations.

Table 6. *Factor Correlation Matrix.*

Factor	1	2	3	4	5	6
1 COM						
2 ATM	.51					
3 LAY	.34	.67				
4 HRS	.59	.47	.42			
5 STR	.17	.34	.36	.31		
6 ENT	.29	.38	.19	.22	.08^{ns}	
7 SOC	.32	.51	.25	.20	.05^{ns}	.40

Note. Extraction Method: Principal Axis Factoring.Rotation Method: Promax with Kaiser Normalization.

ATM = atmosphere; COM = commerce; ENT = entertainment; HRS = human resources & safety; LAY = layout; SOC = social positioning; STR = stressors: noise and crowding.

All correlations are significant at $p < .001$, except those marked as *ns*.

Table 7. *Factor Score Coefficient Matrix.*

	Factor						
	1	2	3	4	5	6	7
This mall is cosy	-.02	**.13**	.05	.05	.00	.01	-.04
This mall is ugly*	.05	**.12**	.05	-.04	.07	-.05	.03
This mall is boring*	.03	**.11**	.00	-.07	-.05	.00	.07
I like the atmosphere in this mall	.02	**.21**	.05	.01	-.06	.06	.09
This mall radiates a positive atmosphere	-.01	**.21**	-.04	.04	-.01	.03	-.02
This mall is oppressive*	-.01	**.18**	.06	.00	.17	-.05	.07
Shops in this mall are well stocked	**.12**	.00	.00	.06	-.03	.00	.00
Most of the shops provide high quality merchandise	**.16**	.01	-.02	.05	.12	.04	-.11
Most of the shops in this mall carry new style products	**.18**	.03	.01	-.07	-.07	.03	.06
Merchandise in this mall is usually up-to-date	**.23**	.04	.00	-.01	-.04	-.04	.02
Most of the products found in this mall are well-known brands	**.14**	-.01	-.01	.02	.01	-.01	.01
There are good brands present in this mall	**.24**	-.01	.01	.04	.04	.06	-.01
There are a lot of entertainment facilities in this mall	.01	.00	-.01	.02	-.01	**.32**	-.04
This mall is great when it comes to entertainment	.01	.04	.02	-.03	.01	**.60**	.16
There is friendly staff in this mall	.06	-.03	-.01	**.21**	-.02	.01	.04
I rate the quality of the service in this mall as high	.05	-.01	.00	**.15**	.03	.00	.00
People who work at this mall are courteous	.05	-.03	.01	**.31**	-.02	-.03	.01
I think people feel safe in this mall	-.01	.04	.02	**.13**	.02	.02	.00
This mall is a safe place	-.03	.05	.03	**.24**	.04	.02	-.02
This mall is simple	-.01	-.03	**.25**	.00	-.05	.00	-.01
This mall is chaotic*	.01	.03	**.19**	-.02	.11	-.03	-.01
This mall is designed clearly	-.02	.02	**.16**	.04	.03	.03	-.03
This mall is legible	.01	.04	**.23**	.00	.00	-.03	.00
It's easy to move around this shopping mall	.00	.06	**.21**	.02	.03	-.04	-.01
I can identify myself with people who shop at this mall	.03	.01	.00	-.01	-.01	.01	**.48**
People who shop in this mall are somehow similar to me	-.03	.05	-.03	.02	.02	.03	**.31**
This mall is noisy*	.01	.02	.02	-.01	.28	**-.04**	.04
This mall is crowded*	-.02	-.02	-.01	.04	.48	**.03**	-.07

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

* inversed measures.

Table 8. *Final Measures of Predictor Variables.*

Index[a]	Items in questionnaire	R^2	R_{CC}	α	M	SD	R_g
ATM				.88	26.00	6.40	1.33
	This mall is cosy	.46	.65				
	This mall is ugly*	.43	.64				
	This mall is boring*	.39	.60				
	I like the atmosphere in this mall	.61	.75				
	This mall radiates a positive atmosphere	.58	.72				
	This mall is oppressive*	.49	.69				
COM				.86	29.90	4.50	.27
	Shops in this mall are well stocked	.41	.61				
	Most of the shops provide high quality merchandise	.48	.63				
	Most of the shops in this mall carry new style products	.41	.59				
	Merchandise in this mall is usually up-to-date	.52	.70				
	Most of the products found in this mall are well-known brands	.42	.64				
	There are good brands present in this mall	.56	.73				
ENT				.76	6.90	2.30	.34
	There are a lot of entertainment facilities in this mall	.38	.61				
	This mall is great when it comes to entertainment	.38	.61				
HRS				.83	24.30	3.60	.11
	There is friendly staff in this mall	.51	.64				
	I rate the quality of the service in this mall as high	.41	.60				
	The people who work at this mall are courteous	.54	.67				
	I think people feel safe in this mall	.49	.57				
	This mall is a safe place	.54	.65				
LAY				.84	23.00	5.00	.23
	This mall is simple	.37	.60				
	This mall is chaotic*	.37	.61				
	This mall is designed clearly	.39	.61				
	This mall is legible	.50	.69				
	It's easy to move around this shopping mall	.48	.68				
SOC				.71	6.18	2.46	.00
	I can identify myself with people who shop in this mall	.30	.55				
	People who shop in this mall are somehow similar to me	.30	.55				
STR				.72	8.20	2.70	.34
	This mall is overcrowded *	.31	.59				
	This mall is full of commotion*	.31	.59				

Note. N = 384. ATM = atmosphere; COM = commerce; ENT = entertainment; HRS = human resources and safety; LAY = Layout; SOC = Social positioning; STR = Stressors; * inversed measures

M = mean; SD = standard deviation; R_g = item means range; R^2 = squared multiple correlation; R_{CC} = corrected item-total correlation (item-rest correlations); α = Cronbach's alpha.

[a] the reflective composite indexes based on relevant factors scores (a linear combinations of all the variables in the analysis for each index) was used in SEM.

Table 9. *Measures Of Outcome Variables.*

Index		Items in questionnaire	R^2	R_{CC}	α	M	SD	R_g
ATT								
APP[a]					.89	23.83	7.79	2.38
		I generally like this mall	.63	.79				
		This mall fulfills most of my needs	.60	.77				
		I recommend this mall to my friends	.57	.75				
		This mall is a good one, compared to similar malls that I know	.50	.70				
		I'm very fond of this mall	.49	.68				
		I can do all needful shopping in this mall	.38	.60				
	†	I often come to this mall to meet my friends						
	†	Visiting this mall somehow improves my quality of life						
FRQ						3^{mdn}	3^{mod}	
		How often do you come to this mall?						

Note. N = 384. ATT = mall attractiveness; APP = appraisal; FRQ = frequency of visit.

M = mean; ^{mdn} = median; ^{mod} = mode; SD = standard deviation; R^2 = squared multiple correlation; R_{CC} = corrected item-total correlation (item-rest correlations); α = Cronbach's alpha; R_g = item means range;

† items removed from analysis (negatively passed the verification of measurement model due to low communalities).

[a] the reflective composite index based on relevant factor scores (a linear combination of all the variables) was used in SEM.

Aesthetics – merged into the atmosphere

Factor analysis revealed that aesthetics was probably not an independent shopping mall dimension. One item measuring general aesthetics had to be excluded from the analysis as it was weakly and equivocally loaded by more than one factor. The second item, measuring "ugliness" of a shopping mall, turned out to be loaded high by the atmosphere (λ= .73). This phenomena is not surprising in the light of some theoretical atmospheric concepts, (e.g. Kotler's [1973]), which posits an inextricable connection between aesthetics and atmosphere as a superordinate concept.

Atmosphere – stressors and staff-related items detached

The hypothesized measures of atmosphere (ATM) turned out close to the factorial solution except for three substantial exclusions. First, it turned out that commotion and crowding have been highly loaded by a unique factor, clearly distinct from the atmosphere. Those items were excluded and form a separate factorial stressors (STR) index.

Second, the factorial solution showed that staff friendliness has been loaded by a unique factor, distinct from the atmosphere. It loaded also two staff-related items from the hypothesized measures of commerce and two items expected to measure perceived mall safety. Hence, the item was moved to the new factorial index of human resources and safety (HRS).

Commerce – staff-related items detached

Items expected to measure commercial functioning (COM) turned out to be coherently loaded by a unique factor. However, six of the initial 13 items were removed prior to accepting the final factorial solution due to low relationships with other measures or weak loadings by the COM factor. There were also two staff-related items described above in the atmosphere section which were moved to a new HRS factorial index.

Convenience – completely excluded from further analysis

Shopping mall convenience was supposed to be measured by a homogeneous index consisting of six items. Surprisingly, none of them correlated significantly with any other shopping mall features. Consequently, it was removed from further analysis and not included in either the PCA, principal axis factoring or SEM.

Layout – almost perfect index

The shopping mall layout (LAY) turned out to be measured mostly by the expected items. After removing four items from the initial pool the remaining five-item index achieved a satisfactory reliability.

Leisure – limited to the shopping mall's entertainment capability

Leisure (LEI) was to be indicated by five items measuring perceived entertainment capability, cafés, restaurants and the mall's potential as a place for meeting friends and having good spare time. Principal axis factoring revealed the index is one-dimensional as hypothesized, but only two of the five items were reliable measures. These were items related to the shopping mall's general entertaining capability; hence a factorial entertainment index (ENT) instead of the broader "leisure" was formed.

Safety – inevitably related to human resources

Safety had to be measured by two items related directly to the participant's perception of safety in a particular shopping mall. As principle axis factoring revealed, these two items were indeed loaded by a unique factor, but the factor loaded even higher three staff-related items (namely: "it has a friendly staff", "people who work at this mall are courteous" and "I rate the quality of the mall's service high"). The loading of the courtesy-related item was actually the highest of all ($\lambda = .75$). A reliable factorial index was thus created and consequently described as human resources & safety (HRS).

Social positioning. No changes to the initial measurement

The items hypothesized to measure social positioning turned out as a coherent measure loaded uniquely, and by a relatively high distinct factor (SOC).

Reliability and intercorrelations of final measures

If eight indexes had been built (the seven above-mentioned predictors and an index of appraisal mentioned in the "outcome" section earlier) based on summative or averaged scores obtained from the appropriate items, the measures would have been internally consistent and reliable (see Table 8 and 9). Cronbach's α would have been higher than or equal to the recommended minimum of .70 (Kline, 2000) for each measure. Item-rest correlations in the majority of the indexes could have been much above the .30 threshold suggested by Field (2009), and none below. Some indexes could have been significantly intercorrelated. Such correlations could have varied from $r_s = .16, p < .001$ to $r_s = .60, p < .001$ and thus be nearly identical to the factor correlation matrix (see Table 6, except that it contains Pearson correlation coefficients whereas the hypothetical variables built on means or summations wouldn't be normally distributed; so the correlations should have been computed using Spearman Rho).

However, to build a statistically accurate and highly parsimonious model of shopping mall attractiveness, factorial indexes instead of summative or averaged index scores were built and used. The factorial indexes (seven predictors and the shopping mall appraisal index) were built on linear combinations of all the variables in the analysis based on their factor scores (see Table 7), rather than on the commonly used method of creating the measures by simply combining only the variables which "define" the respective factor. Thanks to this decision the uncorrelated predictors for modeling (see Table B1), albeit almost perfectly correlated with their "classic" counterparts based on averaged item scores (see Table B2), were obtained.

Shopping mall attractiveness in structural equation modelling (SEM)

Gender independent shopping mall attractiveness (H1 and H2)

In order to verify the first hypothesis, an asymptotic distribution free model was developed, where all seven hypothetical predictors together – observed, exogenous variables[3] – were directly related to the unobserved endogenous[4] variable: attractiveness (ATT). It loaded two observed, exogenous variables: frequency (FRQ) and appraisal (APP).

[3] Exogenous variables in models represent the inputs tested to see if they are the cause. They are also called explanatory variables, predictor variables, or independent variables.

[4] Endogenous variables in models represent the output, tested to see if it is the effect. They are also called response variables or dependent variables.

There were 10 variables in the model then: seven observed, exogenous (indexes of a shopping mall's features), two observed endogenous (FRQ, APP) and one unobserved endogenous (ATT). No predictor in these was correlated. The only significant correlation was the one between errors of APP and FRQ. A graphic representation of the model is shown in Figure 1.

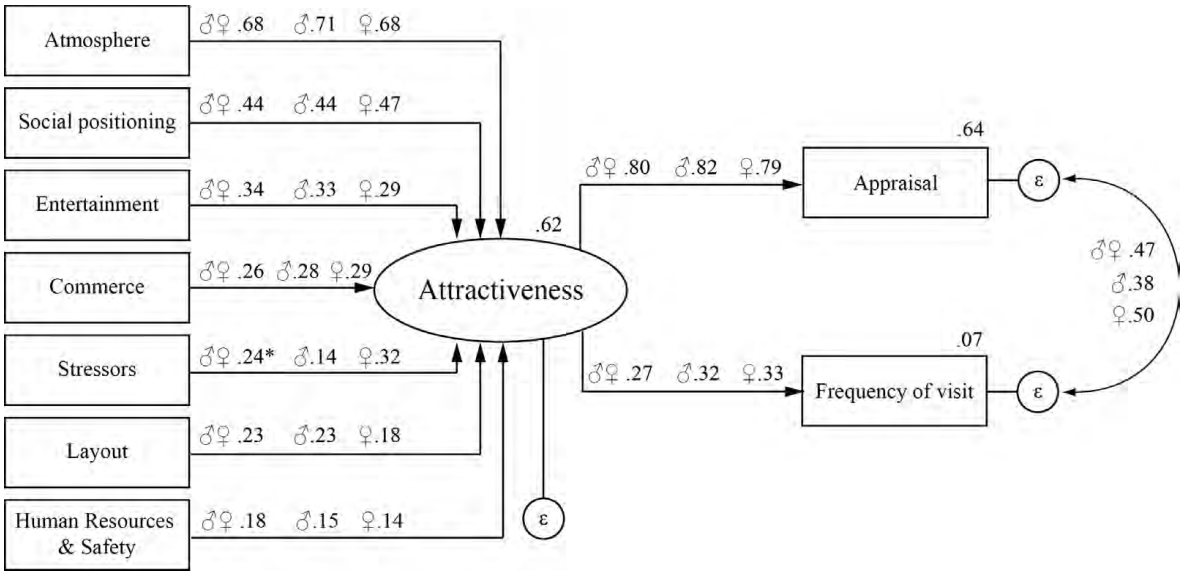

Figure 1. The path diagram of the model – attractiveness of a shopping mall.

♂♀ N = 384. $\chi^2 = 5.21$, $df = 27$, $p = 1$; CMIN / DF =.19 and RMSEA = .00, $p = 1$.

♂ N = 192. $\chi^2 = 24.17$, $df = 27$, $p = .62$; CMIN / DF = .89 and RMSEA = .00, $p = .95$

♀ N = 192. $\chi^2 = 35.13$, $df = 27$, $p = .13$; CMIN / DF = 1.30 and RMSEA = .04, $p = .65$

* the only significant difference between women and men

CMIN / DF = minimum of discrepancy function / degrees of freedom. RMSEA = the root mean square error of approximation.

Straight single-headed arrows indicate standardized path coefficients significant at $p \leq .001$. Curved double-headed arrows indicate correlations significant at $p \leq .001$.

All of the predictors and the index of Appraisal are factorial indexes.

Such a model explained 62% of the attractiveness variance. It fit the data perfectly ($\chi^2 = 5.21$, $df = 27$, $p = 1$; CMIN / DF =.19 and RMSEA = .00, $p = 1$). As it turned out, all the hypothetical attractiveness predictors actually significantly affected it. For detailed information about the regression weights and variances explained, see Table 10.

Table 10. *The SEM Model: Summary of Regression Coefficients in Predicting Mall Attractiveness.*

Index	β	t	p ≤	R^2
ATT <-				.62
ATM	.68	19.60	.001	
SOC	.44	11.90	.001	
ENT	.34	8.90	.001	
COM	.26	7.00	.001	
STR	.24	6.95	.001	
LAY	.23	6.60	.001	
HRS	.18	5.40	.001	
APP <- ATT	.80		.001	.64
FRQ <- ATT	.27	6.45	.001	.07

Note. N = 384. Standardized betas are reported.

ATT = shopping malls' attractiveness; COM = commerce; LAY = layout; ATM = atmosphere; HRS = human resources & safety; 5 STR = stressors: noise and crowding; ENT = entertainment; SOC = social positioning; APP = appraisal; FRQ = frequency of visit

Hypothesis 1 was partially supported accordingly. Seven of eight hypothetical predictors mentioned in the hypothesis significantly affected shopping mall attractiveness. Nevertheless the aesthetic dimension was not present explicitly in the estimation of the model as it was merged into the atmosphere through factor analysis. The atmosphere including aesthetics at most (β = .68) affected shopping mall attractiveness. The aesthetic dimension was not irrelevant then. It was only unlikely to be a unique component among a shopping mall's features. The final structure matrix in Table 4 perfectly shows how the aesthetic worked within this shopping mall "universe" (see the structural factor loadings for the item "This mall is ugly"). Convenience was the only one predictor completely excluded from consideration during the preliminary analysis of item inter-correlations. The reason for excluding it was that no expected convenience measures correlated significantly with any other measures of shopping mall features. It could mean that convenience, as a construct, is absolutely unrelated to other shopping mall features or that completely wrong hypothetical measures of it were used (since they were also absolutely not inter-correlated within the hypothetical pool).

Hypothesis 2 about all predictors being equally important to mall attractiveness was definitely not supported. The standardized regression weights of particular significant predictors varied substantially: from β = .18, $p < .001$ to β = .68, $p < .001$. The most important drivers of shopping mall attractiveness seemed to be the atmosphere and the mall's social positioning. Less important was human resources & safety (see Table 10 for details). The most interesting relationship appeared between shopping mall

attractiveness and stressors (noise and crowding in particular). It seemed that shopping mall attractiveness increased when a higher number of stressors in the mall was declared by participants. This phenomenon is reviewed later in the discussion.

Gender dependent shopping mall attractiveness (H3 and H4)

In order to check whether factors affecting shopping mall attractiveness differed according to gender, two separate models were built – one for women and one for men. The hypothesized structure of variables were identical for both genders and parallel to the gender-independent model described in section 6.3.1. The graphic representation of all three models is shown in Figure 1. Such a structure had a fit good to the data both for women and men. The good fit measures were $\chi^2 = 35.13$, $df = 27$, $p = .13$; CMIN / DF = 1.30 and RMSEA = .04, $p = .65$ for women and $\chi^2 = 24.17$, $df = 27$, $p = .62$; CMIN / DF = .89 and RMSEA = .00, $p = .95$ for men. In both cases the structure of the seven hypothesized factors driving shopping mall attractiveness explained about 62% of the variance; all seven factors significantly affected shopping mall attractiveness in both women's and men's declarations. The third hypothesis was not supported then – the set driving shopping mall attractiveness is the same in both women and men.

The hypothesized difference in hierarchy of factors affecting shopping mall attractiveness in women and men was tested in two group path analyses. The unconstrained structural model (which means that any parameter was allowed to vary between genders) fit the data very well, $\chi^2 = 59.31$, $df = 54$, $p = .28$; CMIN / DF = 1.09 and RMSEA = .01, $p = .99$. The only one significant difference between women and men was in the importance of stressors (noise and crowding); the critical ratio for difference associated with relevant regression weights was -2.6. The comparison of the very good fit between the unconstrained model mentioned above and its totally constrained variant (where all the parameters were set equal for women and men) exhibited that both models were not different: $\chi^2 difference = 23.88$, $df = 16$, $p = .09$. Moreover, the constrained model was more parsimonious and the relevant quality measures showed that the constrained variant was better ($PCFI_{cons.} = .95$ whereas $PCFI_{uncons.} = .75$). Therefore, the first gender-independent model described in section 6.3.1 might have been accepted as the well fitted and high quality model for both women and men.

Nevertheless, one substantial difference between women and men unarguably existed (the importance of stressors). Therefore the mixed model was tested – all parameters were constrained, except the one associated with stressors. Such a model fit to the data almost perfectly: $\chi^2 = 75.95$, $df = 69$, $p = .26$; CMIN / DF = 1.10 and RMSEA = .01, $p = 1$ without compromising the parsimony ($PCFI_{mixed} = .95$). Then the hypothesis about the differences in the hierarchy factors affecting shopping mall attractiveness (H4) in women's and men's declarations was accepted. Noise and crowd (stressors) was a more

important positive predictor of mall attractiveness in women's than men's declarations. For women it is even more important than commerce, layout and human resources, whereas for men noise and crowd is the least important driver. The final gender dependent model is shown in Figure 1 and the hierarchy of factors along with regression coefficients in predicting mall attractiveness in Table 11.

Table 11. *The gender dependent SEM Model: Summary of Regression Coefficients in Predicting Mall Attractiveness.*

Women			Men		
Index	β	t	Index	β	T
ATT <-			ATT <-		
ATM	.68	13.8	ATM	.71	17.46
SOC	.47	9.14	SOC	.44	7.87
STR*	.32	6.13	ENT	.33	7.25
ENT	.29	6.10	COM	.28	6.35
COM	.29	5.45	LAY	.23	6.30
LAY	.18	3.54	HRS	.15	3.61
HRS	.14	3.35	STR*	.14	2.64
APP <- ATT	.79		APP <- ATT	0.82	
FRQ <- ATT	.33	7.5	FRQ <- ATT	0.32	6.45

Note. ♂ N = 192, ♀N = 192. Standardized betas are reported. All $p \leq .001$. R^2 of the ATT is .62 in both women and men.

ATT = shopping malls' attractiveness; COM = commerce; LAY = layout; ATM = atmosphere; HRS = human resources & safety; 5 STR = stressors: noise and crowding; ENT = entertainment; SOC = social positioning; APP = appraisal; FRQ = frequency of visit

* the only significant difference between women and men

The appraisal and frequency of visits to shopping malls according to gender (H5 and H6)

The general appraisal of all evaluated shopping malls was almost the same in women and men, $F(1, 382) = .741$, $p > .05$. H5 was thus not supported. Moreover there was no significant interaction effect between the gender and particular shopping mall on a mall's general appraisal, $F(5, 372) = 1.31$, $p > .05$.

Also the frequency of visits across shopping malls was the same in women and men $\chi^2 (4) = 1.74$ $p > .05$. H6 was not supported then.

Discussion of Results

The purpose of my study was to find out what drives shopping mall attractiveness and what the very structure or hierarchy of factors is in building it. Several conclusions can be drawn from this research. First, conceptual: the results showed that shopping mall attractiveness was a two-dimensional construct, reflecting emotional-cognitive appraisal (high loading) and frequency of visits (low loading). Secondly, attractiveness appeared to be driven by (in order of importance): atmosphere, social positioning, entertainment potential, commerce, social density and noise (called "stressors" in this article), layout, and human resources along with safety. Third, gender differences were of little relevance when the attempt was made to reconstruct drivers of attractiveness shopping mall based on people's declarations (H3 was not supported, H4 was supported). It was evident that the natural drivers of attractiveness may be treated as universal for both genders, at least in samples similar to those surveyed in this study; driver hierarchy was negligibly different in women and men. Moreover, there were no gender differences either in perception of shopping mall attractiveness or in frequency of visits (H5 and H6 were not supported).

Hypothesis 1 was partially supported. All reasonably operationalized mall features verified in previous research turned out to have a direct, significant relationship to shopping mall attractiveness. They were supported partially because two main limitations to verifying hypothesis 1 occurred. First, the unexpected problem with consistent measuring a mall's convenience made it impossible to verify its very contribution to their attractiveness. Second, the operationalizing and measuring aesthetics turned out to be adequate and consistent, while it showed up as a nonspecific feature of shopping malls. Actually it was important but only within (or "via") the atmosphere – probably the most important driver of shopping mall attractiveness. Maybe this is the reason why authors of recent studies didn't expose aesthetics as a shopping mall feature explicitly, and the design or décor proved to be secondary in importance to a mall's perception. I have already mentioned this issue in the literature review. One has to remember that the features related to human resources and safety, although statistically significant, only marginally contributed to attractiveness and thus were almost irrelevant.

Hypothesis 2 was not supported. The relationship of each particular predictor to attractiveness varied significantly. The most surprising result, albeit relatively easy to explain in many ways, is the positive correlation of social density and noise (stressors in the model) to shopping mall attractiveness. The questions in the survey were related precisely to overcrowding and commotion — the phenomena commonly treated as stressors in environmental psychology, but — as demonstrated by Mehta, Sharma and Swami (Mehta, 2013; Mehta, Sharma, & Swami, 2013): in retail environments affecting the perception of retail settings in many ways (not only negatively). In the end, retail crowd-

ing is a complex percept that results from a combination of many personal, cultural, situational, and environmental factors, Mehta (2013) argued after an impressive review of the literature and theories on the subject. And it is also evident here: even if negative effects of overcrowding and commotion on human wellbeing, behavior and environmental appraisal were verified empirically many times (Bilotta & Evans, 2010), the effect of these stressors here, when shopping mall attractiveness is considered, seemed to be directly opposite. Especially in the women's sample.

The gender difference regarding crowding effects seems in line with the known results of gender-related studies on social density provided by Gifford (2007). He provided ample evidence that men respond to such density more negatively than women, manifesting mood changes, hostility, and generally more negative attitudes than women. The latter might be the case in this study, even if the high density was only recalled, not directly experienced just before or during the survey. Finally, Baker and Wakefield (2012) showed recently that perception of crowding may depend on whether the individual is a more social (hedonic) or task (utilitarian) shopper. Social shoppers positively perceive social density, and females were more likely to be social shoppers in their study (Baker & Wakefield, 2012).

It does not necessarily mean that commotion and overcrowding do not affect all mall users negatively in some way. It rather means that people, especially women, may conceptualize crowded and noisy shopping malls as attractive places, despite particular negative aspects of these stressors. Going to the mall can resemble going to a festival or social event, where crowds and noise are actually expected. Unquiet malls physically attract people to some extent. Likewise — the calmer, quieter, and more vacant a mall is, the less attractive it seems to be. It seems that people don't want to be in a more or less vacant place, especially where it is supposed to be noisy and full of other people. This is a common truth in theories of placemaking (Carmona, 2010) and was evident in this study especially in the surveyed women sample.

The positive relationship of crowding and social noise to attractiveness could be the effect of a universal human need to experience a cognitive consonance (Cooper, 2007). One can think that a good mall should be a crowded one; retail space is supposed to be noisy and full of people. If it is not, one can deduce, something may be wrong; cognitive tension appears. When we are tense, we are more prone to think "more slowly", more concretely, contemplatively and analytically (Kahneman, 2012). The answer to the implicit question "why there are so few people", followed by a detailed analysis of the "suspected" environment, could have a significant impact on general mall appraisal and the intention to visit it.

The positive effect of crowds on attractiveness could also be an echo of informational social influence (Wooten & Reed, 1998). Someone can deduce that many people going there probably means they're going to a great place, one especially worth visiting; and will therefore judge it as an attractive environment. Finally people, being definitely social species (Aronson & Aronson, 2012), could simply like the company of other people and some social noise (Gifford, 2007). Especially, when they can control the situation, namely: they can leave whenever they want. Finally, the effect of perceived crowding on an attractive retail venue may be U-shaped and moderated by the consumers' optimal stimulation level (Mehta et al., 2013).

It is also worth noting how important atmosphere. This study makes even more probable the hypothesis of the enormous importance of atmosphere to mall perception, as positively tested in numerous studies to date (Gifford, 2007) and mentioned in the literature review herein. But there is more to this study. I have offered here some basic insight into this construct's nature through the principle of axis factoring along with oblique rotation. It was demonstrated that atmosphere could not only be at least moderately correlated to various mall features (components), such as social positioning and human resources & safety, both of which seem more or less obvious. It was also shown both the enormous and inextricable relationship of an object's design-related qualities to its atmosphere. First, the atmosphere was strongly correlated to layout (which is all about architectural design). Second, the atmospheric measures turned out to be highly functionally integrated with measures of aesthetics in general and ugliness in particular.

Bearing in mind the literature review on the topic, there was another unexpected result – the relatively low importance of the commerce related factor to mall attractiveness. As I said previously, tenant-mix and related features serve as a very important driver for any shopping environment attractiveness. However, in this study, the six shopping malls shared 64% of the tenants (only 36% were unique brands, present only in one mall). Nearly a quarter of the brands were simultaneously present in four, five or six of the malls. The commercial proposition in six shopping malls could have been so closely akin that participants could not have seen any factual difference between them. Actually the commercial quality was perceived as significantly different by participants only in one shopping center – Renoma; it was different from the remaining five shopping malls, all others being equal in this dimension. This can be a fundamental reason why the tenant-related feature was not an important driver of these mall attractiveness.

The study findings - regarding the highest importance of atmosphere and social positioning to shopping mall attractiveness plus moderate entertainment capability and

weak "commercial" impact - could provide substantial data for retail and facilities management, including high-street (not limited to shopping) managers.

First of all the managers ought to think about the general ambiance of their sites for providing generally pleasant intangible experiences. It would be extremely difficult, but possible, for example, to make experimental adjustments constantly and to tweak the customer-environment fit. They would have to worry about every detail like music, scent, décor and hundreds of other, often miniscule, elements. The debate on how to do it was started forty years ago by Kotler (1973). Some recent insights on such customer experience management was provided by Schmitt (2003), Shaw & Ivens (2005) or in a very easy and feisty way by Underhill (2004).

Second, the mangers should worry about the coherence of their target audience's self-image and the atmosphere they provide for people they attract to their sites. It could be said clearly that the results I present leave no doubt that when one fails to identify him or herself with the (imagined!) people who visit a site or object attraction to such an environment will probably decrease significantly. The important conclusion is that the managers should not only control the people who visit their site – this is relatively easy; the toughest challenge is that first they must know perfectly their actual visitors to know who precisely they are matching their sites to.

The third thing to consider is how to entertain the visiting people. In order to do it properly, managers should also know their visitors, as in the case of social positioning. People have to be entertained in several ways, but always adequately to their status, age, and other segmenting variables. The commercial considerations, intuitively the most obvious and "first", should be undertaken by the managers only after they have the three above-mentioned dimensions under control or at least be working on them simultaneously. Managers should remember, though, that even if ambient leisure and entertainment may constitute differentiation of the shopping center, the evidence on synergetic benefits between leisure, entertainment facilities and the shopping mall itself (non-leisure sales) is problematic (Christiansen, Comer, Feinberg, & Rinne, 1999; Haynes & Talpade, 1996; Kang & Kim, 1999; Reynolds & Howard, 2007). There were even hypotheses issued, based on some empirical evidence, that (1) the entertainment value of the shopping mall is more a distractor than a facilitator to the shopping behavior desired by managers (Christiansen et al., 1999), and (2) leisure facilities owners benefit more from being part of a shopping mall (and its footfall) than shopping mall management does from leisure (Reynolds & Howard, 2007). Nevertheless, providing more entertainment to a mall will definitely attract more visitors and consequently meet social expectations.

Coming back to a discussion of the very results and considering the output variable – attractiveness itself – the appraisal's one-dimensional nature, heavily loaded by it, is not

a real surprise, except that I assumed emotions and cognitive judgments to be separate factors here. Maybe they actually are separate, but the survey method is not best suited to reveal emotions; it rather retrieves the cognitive reflections about one's emotions.

The moderate correlation between the appraisal (emotional-cognitive effect) and frequency of visits is also not amazing. A shopping mall could be both great and located well, therefore highly appreciated and approachable at the same time. On the other hand there can be a not-so-appreciated mall but perfectly located, and be visited more frequently. Finally, there can be two identically appreciated shopping malls, but – for some reason – one may be visited significantly more and the second less often. This was the case in my study, by the way (not reported in this article, as comparison between particular malls was not its aim).

The discrepancy between mall appraisal and frequency of visits can be caused not only by a mall's physical localization. It can be a similar to the effect known in attitudinal psychology - the debate about the convergence of declarations and behavior is still ongoing (Eagly & Chaiken, 2005) - where the well-known phenomenon about appreciating (liking, approving, etc.) does not necessarily mean "using", "approaching" or behaving in any other particular way (Eagly & Chaiken, 2005). There can also be a negative effect: spending money. Visiting a malls usually involves spending money and time; thus it might be the case that some people who visit a particular mall could associate it primarily with such ambivalent investments; then its appreciation may somewhat decrease.

The present study has some limitations. The first one being the nonprobability sampling method with its structure sample, which makes it nonrepresentative even to a population of young Poles. The second is that participants were not asked about a mall in particular, which may have caused various biases related to retrieving a particular shopping mall in detail from one's memory. Third, the visit frequency index (FRQ) was not really a comprehensive index of a mall's "physical attraction". Moreover, and most importantly, it didn't measure the customer retention. If it did, the insight into attractiveness could be much deeper, or the interesting broader construct of shopping mall magnetism (Ooi & Sim, 2007) could be introduced and studied. Fourth, coherently measuring shopping mall convenience failed in this study; and this feature, given the former research on the topic, seems to be a very important driver of shopping mall attractiveness. At least in certain situations.

And the last hypothetical limitation - the enormous importance of atmosphere and entertainment (e.g. over the commercial aspect), and the unexpected positive effect of noise and crowding on shopping mall attractiveness may all result from a young adult sample which may have caused shopping malls to be perceived differently, even if his-

torical studies (Haynes & Talpade, 1996) indicated that a mall's entertainment capability may not necessarily attract young people, but mainly families. And recent studies (Swamynathan et al., 2013) demonstrated that everyone – regardless of age – is tempted by entertaining features at malls. A similar limitation may be applied to the lack of gender differences in appraisal and frequency of visits in shopping malls; in fact they may exist, but appear only, for example, in generational cohorts other than being the sample's core in this study.

It is also worth mentioning that no psychometric variables such as personality, lifestyles or personal values were taken into account as a grouping variable. They can be important drivers of our relationships with shopping malls, as I demonstrated in the literature review herein. Therefore shopping mall attractiveness drivers may vary depending on population segments. In the end, one has to remember that almost all constructs included in this study can be defined a bit differently depending on the researcher and her/his purpose. The specific definition and operationalization of constructs could change the big picture. Such considerations should be taken into account for future research.

To sum the whole study up, it has been demonstrated what the possible drivers of environment's attractiveness are – with focus on the urban shopping mall. This research showed how significantly a particular environmental dimension can modify the way it is perceived, and thus reveal its real nature, as subjectivists would probably say. In a broader sense, we can see that there could be important, intangible environmental features – the atmosphere and perceived image of people visiting it. One can call it the "*genius loci"* – spirit of the place – which can affect environmental attractiveness far more than its affordability when seen by taking utilitarian (e.g. commercial) or even hedonic (e.g. entertainment) dimensions into account. This spirit of place is built on somehow definite phenomena such as environmental legibility or its entertainment capability, but more often on elusive and subjective qualities such as atmosphere (including the design) or the perceived image of people visiting the place. Each quality probably has its own predictors, which could be investigated and modeled until very tangible variables, such as the color of the walls, were reached.

The conclusion is in fact a call for further research. Attractiveness of a place (particularly an urban shopping mall) seems to be an extremely complex idea, demanding an incredibly convoluted model, far larger and more elaborate than any attempt to date; with the model presented in my article included. If we are to understand people-environment relationships better and deeper, further research in this field is required.

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Appendix A. The Evaluated Shopping Malls

Table A1. *Shopping Malls Evaluated in This Study. Facts & Figures.*

Mall Name	IN	GLA	GFA	FLO	STOR	PARK	CINE
Arkady Wrocławskie	2007	30 000	15 000	3	120	1 000	Yes
Galeria Dominikańska	2001	30 000	13 000	4	100	900	No
Magnolia Park	2007	77 595	56 000	2	230	3 018	Yes
Pasaż Grunwaldzki	2007	52 000	25 000	4	200	1 400	Yes
Renoma	2009*	31 000	10 000	5	120	600	No
Sky Tower	2012	25 000	23 000	3	86	1 500	No

Note. IN = Inaugurated (year). GLA = Gross leasable area (total, all floors; tenants excluding offices) in square meters. GFA = Ground floor area in square meters. FLO = Number of floors. STOR = Number of stores and services. PARK = Number of parking spaces. CINE = The presence of a cinema.

*first inaugurated in 1930 as Warenhaus Wertheim.

Table A2. *Shopping Malls Evaluated in This Study. The Factorial Scores.*

Mall Name	APP	ATM	COM	ENT	HRS	LAY	STR	SOC
Arkady Wrocławskie	-.25	.00	-.35	-.06	.04	-.15	.28	-.10
Galeria Dominikańska	.29	-.01	.02	-.29	.05	.42	-.81	.08
Magnolia Park	.37	-.08	.22	-.06	-.15	-.24	-.57	.36
Pasaż Grunwaldzki	.44	.42	-.21	.27	-.04	.05	-.41	-.01
Renoma	-.36	.16	.39	-.34	.12	-.29	.69	-.20
Sky Tower	-.49	-.48	-.08	.49	-.02	.20	.81	-.13

Note. N=384. Standarized scores are reported.

APP = shopping malls' appraisal; ATM = atmosphere; COM = commerce; ENT = entertainment; HRS = human resources & safety; LAY = layout; STR = stressors: noise and crowding; SOC = social positioning.

Appendix B. Intercorrelations of Shopping Mall Indexes

Table B1. *Intercorrelations of Factorial Shopping Mall Indexes.*

	APP	COM	LAY	ATM	HRS	STR	ENT	SOC
APP / Appraisal								
COM / Commerce	.22*							
LAY / Layout	.18*	.01						
ATM / Atmosphere	.52*	-.01	-.04					
HRS / Human Resources & Safety	.16*	.01	.02	.04				
STR / Noise and Crowding	-.16*	.02	-.00	-.02	-.00			
ENT / Entertainment	.26*	.01	-.01	.00	.01	.00		
SOC / Social Positioning	.37*	.01	.00	.00	.05	.00	.02	
FRQ / Frequency of visit	.47*	.03	.16*	.19*	.00	-.06	.05	.14*

Note. N=384. Intercorrelations of indexes (Spearman's rho) are presented below the diagonal.

* $p \leq .001$.

Table B2. *Intercorrelations of Factorial vs Averaged Indexes.*

	APP$^{\mu}$	COM$^{\mu}$	LAY$^{\mu}$	ATM$^{\mu}$	HRS$^{\mu}$	STR$^{\mu}$	ENT$^{\mu}$	SOC$^{\mu}$
APP / Appraisal	.99							
COM / Commerce		.88						
LAY / Layout			.87					
ATM / Atmosphere				.87				
HRS / Human Resources & Safety					.83			
STR / Noise and Crowding						.95		
ENT / Entertainment							.93	
SOC / Social Positioning								.88

Note. N=384. Spearman's rho coefficients are presented.

All correlations are significant at $p < .001$, except those marked by ^{ns}

APP, COM, LAY, ATM, HRR, STR, ENT, SOC = factorial indexes

$^{\mu}$ indexes built by averaging only the scores from the items which "define" the respective factor.