

## CONSUMER SOCIALISATION OF OVER-THE-COUNTER MEDICINES: DOES CULTURE MATTER?

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### **Abstract**

*Self-medication with over-the-counter medicines (OTCs) is common practice not only for adults, but also among adolescents. Tapping into this potentially lucrative segment of adolescents as consumers will require marketers and academic researchers to understand this market well. The long-term benefits are worthy of focus as the buying patterns developed during teenage years are likely to continue throughout adult lives. Furthermore, as this population begins to age, they become a stronger customer base for pharmaceutical products. The majority of studies about OTCs have been conducted from the perspective of pharmacists or healthcare professionals in medical sociology, pharmacy practice and public policy. Very limited research has examined these products from the consumer behaviour perspectives. Using a consumer socialisation perspective, this study seeks to understand how adolescents learn to use OTCs. The study aimed to understand similarities and differences between adolescents living in Malaysia and New Zealand with respect to this product class. Data was collected at high schools in Christchurch, New Zealand and Johor Bahru, Malaysia. A total of 509 (New Zealand n=276 and Malaysia n=233) usable responses were obtained. Overall, the results of this study showed that self-medication with OTCs was widespread among respondents with a high percentage of them having purchased the medicines themselves. The results of this study also suggested that there were some differences and similarities among adolescents in New Zealand and Malaysia when it came to OTC-related consumer socialisation.*

**Keywords** *Over-the-counter medicines, self-medication, consumer socialization, culture*

## INTRODUCTION

An essential element of healthcare consumerism is self-care. Self-care is what people do for themselves to establish and maintain health, as well as to prevent and deal with illness (WHO, 1998). One important element of self-care is self-medication. According to World Self-Medication Industry ([www.wsmi.org](http://www.wsmi.org)), self-medication is the treatment of common health problems with medicines especially designed and labelled for use without medical supervision and approved as safe and effective for such use. Medicines for self-medication are often called “non-prescription” or over-the-counter medicines (OTCs) and can be obtained legally without a doctor’s prescription through pharmacies, grocery stores and other outlets. In most homes, many illnesses are initially treated with medicines that are easily obtainable to ease light symptoms such as headaches, colds and sore muscles (Albarrán & Zapata, 2008).

The practice of self-medication with OTCs is popular for several reasons. These include products being shifted from prescription to non-prescription status, trends toward self-care, consumer convenience, savings in time and money in not having to visit a physician and growing consumer sophistication (Amoako, Richardson-Campbell, & Kennedy-Malone, 2003; Blenkinsopp & Bradley, 1996; Eagle & Chamberlain, 2001; Gore, Madhavan, McClung, & Riley, 1994). This increasingly popular practice, however, has several implications. Consumers may not have adequate knowledge or ability to judge potential benefits and risks (Gore et al., 1994; Sansgiry & Cady, 1996). They may perceive that these medicines are safe as they are easily accessible and can be purchased without prescription. These medicines can have adverse effects if used in higher dosages than recommended, in combination with other drugs or when based on an incorrect self-diagnosis (Burak & Damico, 2000; Ellen, Bone, & Stuart, 1998). There is also the potential for misuse and abuse (Hughes, McElnay, Hughes, & McKenna, 1999; Wazaify et al., 2005). The risks of improper use of OTCs are especially worrisome and may defeat the benefits of OTC medications.

In comparison with other types of drugs, OTCs can be easily accessed and purchased without the need to show identification or proof of age, unlike alcohol or cigarettes. It is evident from previous studies that the use of OTCs to self-medicate is common among adolescents (Rudolf et al., 1993; Stasio et al., 2008; Wilson et al., 2010). OTC medications are commonly used by adolescents for headaches, stomach-aches, ear and throat pain, muscle, joint and back pain, coughs and colds and menstrual pain (Chambers, Reid, McGrath, & Finley, 1997; Dengler & Roberts, 1996; Holstein, Hansen, & Due, 2004). The most commonly used OTCs taken by adolescents are analgesics, antihistamines or decongestants (Rudolf et al., 1993; Westerlund, Brånstad, & Westerlund, 2008). It is evident from previous research that youths have not only used these medications properly, i.e. to treat illness, but that they have also used them improperly, such as in cases of misuse (Ellen et al., 1998; Rudolf et al., 1993) or abuse (Chambers et al., 1997; Dengler & Roberts, 1996; Ellen et al., 1998). Their lack of ability to judge the potential benefits and risks may result in harm.

Generally, teenagers are less familiar and have less experience with products as compared to older consumers (Mangleburg, Grewal, & Bristol, 1997). They may be less aware of OTC risks than adults (Myers, 1992), have less knowledge (Wilson et al., 2010) and may simply take more of the medicines than the label recommends (Ellen et al., 1998). Due to their lack of knowledge, many adolescents underestimate or do not realise the fatal potential of an OTC overdose (Myers, Otto, Harris, Diaco, & Moreno, 1992). Thus, issues such as with whom they interact about OTCs and which media they would choose as sources of information are addressed in this study taking a consumer socialisation perspective.

Ward (1974) defined consumer socialisation as a specific type of socialisation by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the marketplace. Published studies on OTCs have primarily been based on medical sociology, pharmacy practice or public policy framework. There are few studies in the literature of OTCs from the consumer behaviour perspective. For example, consumer perceptions (Wazaify, Shields, Hughes, & McElnay, 2005) have been studied, as have usage patterns (Sinclair, Bond, & Hannaford, 2000) and decision making (Paddison & Olsen, 2008). Yet, understanding these products from the consumer behaviour perspective is important for improving communications and developing strategies for both marketers and policy-makers. Ward and Tully (1998) as cited in Paddison and Olsen (2008) and (Lyon, 2001) have called for greater attention in OTCs research to be dedicated to the consumer behaviour point of view.

Based on the literature, socialisation processes proposed in this study are interactions with family, peers, mass media and school, as well as other purchase-relevant individuals who may influence the consumption of OTCs, such as doctors, pharmacists, nurses and sales people.

Interaction with family is captured using socio-oriented and concept-oriented family communication patterns while the influence of peers is captured using normative and informational peer influence measures. Four types of mass media channels were proposed; television, radio, printed media and the internet. Other purchase-relevant individuals are grouped into medical personnel (doctors, pharmacists and nurses) and retail staff.

A socio-oriented family communication pattern focuses on maintaining harmonious family relationships by encouraging respect for authority and pleasant social relationships at home, while concept-oriented family communication focuses on teaching children to develop their own skills as consumers, thus allowing children to form their own opinions of the world around them (Moore & Moschis, 1981; Moschis, 1985). Moschis (1985) suggests that teens raised in a family where socio-oriented family communication is used may make decisions based on the evaluation and opinion of others. Compared to children in socio-oriented families, children from concept-oriented families may have a greater influence in purchase decision-making (Foxman et al., 1989). This finding is supported by Kim, Lee and Tomiuk (2009). In that study Kim et al. (2009) also found that mothers who exercise the concept-oriented communication pattern appear to promote a utilitarian and a social/conspicuous decision-making style in their children. A utilitarian decision making style emphasises on finding the best quality or product benefits from price, while social/conspicuous focuses on on the social meanings or value-expressive function of consumption. Socio-oriented mothers on the other hand promote an undesirable decision-

making style, one that is impulsive, careless, and confused by too many choices (Kim et al., 2009).

A number of cross-cultural consumer socialisation studies have also been conducted focusing on parental styles or family influence (Rose, 1999; Rose, Boush, et al., 2002; Ward, Klees, & Robertson, 1987). These studies show that families in individualistic societies like New Zealand are seen as more open and expressive in comparison with families in collectivist societies (Ward et al., 1987). Previous studies in both western (Moschis, 1987; Moschis & Churchill, 1978; Moschis & Moore, 1979) and eastern cultures (Kamaruddin & Mokhlis, 2003; Sabri & Masud, 2005) have documented the importance of peers in adolescents' lives and the consumer socialisation process in both cultures.

To capture the influence of peers on adolescent consumer socialisation, a number of researchers used the concept of susceptibility to interpersonal influence, based on work carried out by Bearden, Netemeyer, and Teel (1989). Susceptibility to influence is defined as:

*The need to identify or enhance one's image with significant others through the acquisition and use of product and brands, the willingness to conform to the expectation of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others (Bearden et al., 1989, p. 474).*

Susceptibility to influence is theorised to have two dimensions; normative and informational influence. Normative influence is defined as the tendency to conform to the expectation of others, while informational influence is the tendency to accept information from others as evidence about reality (Bearden et al., 1989). It was evident from previous studies that susceptibility to normative influence and susceptibility to informational peer influence have different effects on adolescents' learning (Mangleburg & Bristol, 1998; Mangleburg, Doney, & Bristol, 2004).

For example, Mangleburg and Bristol (1998) found that susceptibility to normative and informational peer influence had different effects on adolescents' scepticism towards advertising. Susceptibility to normative peer influence was found to reduce the tendency towards scepticism. In contrast, susceptibility to informational peer influence enhanced scepticism. A more recent study suggested that susceptibility to informational influence also appeared to have more impact on shopping attitudes and behaviours than normative influence, indicating that teenagers are more influenced by information that the group provides than by group pressure to conform (Mangleburg et al., 2004). From the cross-cultural point of view, the fact that collectivist societies encourage information sharing and group ties (Hofstede, 1980) may lead to more influence from peers in collectivist societies like Malaysia.

Taking into consideration that OTCs are promoted through television, radio and print advertisements in both New Zealand and Malaysia (Malaysian Medical Association, 2002; Norris et al., 2005) and can also be accessed via the internet (Gurau, 2005), and the fact that media accessibility is high in both New Zealand and Malaysia (Comrie et al., 2007; Euromonitor International, 2007; Marshall et al., 2006), it is possible that adolescents in both countries are exposed to and consume media in a similar way and might be socialised

by media in the same way. However, past studies have suggested that their usage patterns are different. For example, de Mooij (2010) indicated that television was an important medium in collectivist and high power distance societies, a finding which is supported by the Sabri and Masud (2005) study in Malaysia. In that study, the researchers found over half of their adolescent subjects watched television with a mean of 3.6 hours a day. In New Zealand, a survey by Nielsen/NetRatings, a commercial media research company, revealed that young New Zealanders were enthusiastic internet users, while the Nielson Panorama Survey (2006), reported that the 15-25 years age group in New Zealand was less likely to read newspapers (Comrie et al., 2007). In contrast, in Malaysia, Sabri and Masud (2005) found that only 15.2% of the adolescents in their study surfed the internet and only 17.1% indicated internet advertisements influence their purchase decisions, while a newspaper was read by 55.6% of the respondents, suggesting greater exposure to the advertising and relevant articles contained within.

Few studies have been conducted to investigate the roles of medical personnel and retail staff in OTCs' consumption. In New Zealand, Emmerton and Shaw (2002) found the involvement of pharmacy staff is influential when consumers do not have a particular brand in mind and for first time purchase. Hashim et al. (2007) in Malaysia found a doctor was preferred, followed by pharmacist, nurse and salesperson for advice about OTCs. However, the patterns of communication could not be concluded based on these two studies. Thus, it is proposed that:

Family communication style, levels of a) normative peer influence, b) informational peer influence, mass media usage and communication with a) medical personnel, and b) retail staff will be different among adolescents in New Zealand and Malaysia.

## **The Importance of the Study**

It is worth conducting the current research for several reasons. First, from a marketing point of view, adolescents in both New Zealand and Malaysia represent a valuable market segment. Euromonitor International (2009) estimated that this consumer segment will make up 36.8% of the forecasted total population in Malaysia, and 26.2% in New Zealand in 2020.

Second, although many published studies on OTCs exist for example, consumer perceptions (Wazaify, Shields, Hughes, & McElnay, 2005), usage patterns (Sinclair, Bond, & Hannaford, 2000) and decision making by Paddison and Olsen in 2008 few studies have been done from consumer behaviour perspective despite calls to do so (Ward and Tully, 1998 as cited in Paddison and Olsen (2008) and Lyon, 2001). Yet, understanding these products from consumer behaviour perspective is important in improving communications and developing strategies for both marketers and policymakers. Overall, these few studies suggest it is worthwhile conducting further research on OTCs and adolescent consumer behaviour, bearing in mind the evolving nature of the OTCs market and the special importance placed on this large group of current, as well as future, consumers of these products.

Third, New Zealand is a developed nation, while Malaysia is a developing country. In 1996, Reinstein suggested that self-medication may be different in different countries, and especially so, when comparing developed to developing countries. In developing countries, people generally have less money to spend on health while governments, again generally are less able to provide health coverage (Reinstein, 1996), therefore people depend heavily on self-medication. It was expected, then, that there would be large differences in self-medication patterns and processes between places such as New Zealand and Malaysia. However, although classified as a developing country, Malaysia is quite similar to New Zealand in a number of ways. Malaysia's healthcare delivery system is publicly funded, as is the case in New Zealand. In terms of exposure via the media, in both countries OTCs are promoted through television, radio and print advertisements (Malaysian Medical Association, 2002; Norris et al., 2005) and media accessibility is high in both settings (Comrie, Vaccarino, Fountaine, & Watson, 2007; Euromonitor International, 2007; Marshall, Potter, & Lee, 2006). Information about OTCs can also be accessed via the internet (Gurau, 2005). Both countries have excellent internet infrastructure (Marshall et al., 2006). Though similar in exposure and accessibility, previous research has indicated the pattern of media usage is dissimilar (Comrie et al., 2007; de Mooij, 2010; Sabri & Masud, 2005). With regard to OTC distribution, both countries sell through pharmacies, supermarkets and grocery stores, although the range of products sold in each of these outlets are likely to be different. It should also be noted that generally, OTCs in Malaysia are sold by brand name. This is especially so in supermarkets and convenience stores, while in New Zealand, generic brands are also widely available. For example, paracetamol is widely available in generic form in New Zealand's supermarket while in Malaysia the product is mostly sold by its brand name, e.g. Panadol. The classification of medicines as OTCs is also almost identical in both countries ([www.medsafe.govt.nz](http://www.medsafe.govt.nz); [www.pharmacy.gov.my](http://www.pharmacy.gov.my); Euromonitor International, 2010). It is therefore interesting to investigate whether young consumers in two nations, one developed and the other developing, but having similar accessibility to healthcare and exposure to OTCs, will learn about OTCs in the same way.

Fourth, the issue of social structure provides an interesting basis for comparisons. Hofstede (1980) has documented that New Zealand is an individualistic nation, whereas Malaysia represents a collectivist nation. In addition, Bush et al. (1999) have proposed that socialisation influences will vary across ethnic groups and cultures. Therefore, there is a need to conduct research in specific cultural settings so that similarities and differences between cultures can be compared. Most studies in international cross-cultural consumer socialisation have been conducted in the United States (US) and Japan; (examples include Rose, Boush and Shoham (2002) and Rose (1999)). Although the United States is an individualistic nation similar to New Zealand, these countries have distinctly different cultures. New Zealand society consists mainly of European background (67.6%), Māoris (14.6%), Asians (9.2%), Pacific Islanders (6.9%) and others (1.7%) make up the remaining ethnic categories (Statistics New Zealand, 2006). Malaysia consists of Malays, the dominant group representing 60% of the population, followed by Chinese (30%), Indians (8%) and others (2%) including the indigenous group Orang Asli (Department of Statistics, Malaysia). Different cultures exhibit different norms and values, and as a result the content and sources of learning experiences are expected to differ (Moschis, 1987). Conducting

this research in two different settings can enhance theoretical understanding and produce testable propositions across-cultures (Singh, Kwon, & Pereira, 2003).

Finally, although there has been an inspiring body of knowledge about consumer socialisation of adolescents, the majority of these studies have focused on the US. While such studies are useful, there is a great need to investigate non-US adolescents to predict their future behaviour in the global market. The use of New Zealand and Malaysia offers an excellent basis for comparison with other countries that have similar characteristics. Indonesia and Brunei, for example, have similar characteristics to Malaysia in terms of ethnicity, culture and religion, whilst New Zealand has numerous similarities to Australia.

## **Objective of the Study**

Generally, the aim of this study is to conceptualise and empirically investigate consumer socialisation of this product category in two countries (New Zealand and Malaysia) in order to advance understanding of consumer behaviour and pharmaceuticals disciplines.

## **METHODOLOGY**

Taking into consideration the ethical issues and the practical aspect of reaching the target group in both countries, a survey method employing a classroom administration approach was used. By using classroom administration, the researcher was able to inform students about the purpose of the study, explain the questionnaire, ensure confidentiality of responses, explain the terminology and give clarification should the students not understand. Furthermore, the method avoided delay and minimised unreturned questionnaires from the respondents. It also allowed the researcher to collect the views of large numbers of people at one time (Davidson & Tolich, 2003).

## **The Survey Instrument**

In designing the questionnaire, the literature provided a broad range of useful measures. The study incorporates theories in consumer socialisation, relevant to OTCs. To adequately measure the constructs, information from the theoretical and empirical literature in both consumer socialisation and OTCs was used. The draft questionnaires were pre-tested on high school students in New Zealand and Malaysia before actual data collection was administered.

For family communication patterns, eight statements were included, of which two statements were general statements about family interaction. The other six statements specifically focused on family interaction with regard to OTCs. This scale was developed in such way as to explore the degree to which the type of communication between the respondent and his or her parents was more socio or concept-oriented. All items were

developed specifically for this study, but reflected the literature on family communication patterns (Chan & McNeal, 2003; Lachance et al., 2000; Mangleburg & Bristol, 1998; Moschis, Moore, & Smith, 1984) and OTCs. The original scale for family communication patterns was a 5-point Likert scale but was changed to a “yes” or “no” dichotomy for this study. The use of a short, precise, dichotomous scale helped students to make a quick and certain decision, considering the limited time given and to balance other more difficult questions at the end of the questionnaire. The decision to use the dichotomous format was made following the feedback from a pilot testing exercise.

Eight statements on peers’ interactions were used to measure peer influence. As with family interaction, all items measuring peer interactions regarding OTCs were developed specifically for this study, but reflected the literature on normative and informational peer influences (Bearden et al., 1989; Mangleburg & Bristol, 1998) and OTCs. Similar to interaction with family, the original scale for peer interaction was changed from a 5-point Likert scale to “yes” or “no” answers, for the reason noted above.

For interaction with the media, respondents were asked to indicate the media they would use if they wanted to find information about OTCs. Ten options were listed and respondents could report more than one source in a multiple-response format. The media listed were selected on the basis of their relevance to consumer socialisation (Ferle et al., 2000; Mehta & Keng, 1985; Moschis & Churchill, 1978) and from the OTCs’ literature (Hughes et al., 2002; John & Evans, 2000). This was followed by three questions about internet usage. Additional questions about internet use were included as the internet was a significant source of market information among adolescents (Singh et al., 2003).

Communication by the school about drugs, both illegal and OTCs, was measured using four statements specifically developed for this study. These used a “yes” or “no” dichotomy. This was followed by two questions measuring communication with others who may be consulted by adolescents in the consumption of OTCs. Both items were in a multiple-response format. The list was based on previous OTCs studies (Chambers et al., 1997; Neafsey, Jarrín, Luciano, & Coffman, 2007; Paddison & Olsen, 2008; Yousef et al., 2008).

## **Sampling**

Christchurch was selected to represent New Zealand, while Johor Bahru was chosen to represent Malaysia. Both cities were the second largest cities in each of the countries and reflected the ethnic composition of each nation. A two-stage sampling strategy was employed in this study. For the first stage, the comprehensive directory of schools published by the Ministry of Education was used to select schools to be included in the sample. The schools were selected using a table of random numbers. In both countries, if the selected school refused to participate, another school was chosen from the table of random numbers. Once the school was selected, the researcher discussed the possibility of participating in this research with the school principal or the person identified as responsible for external relations at each school.

## RESULTS AND DISCUSSION

### OTCs Usage

The reasons for OTCs' usage are presented in Table 1. This questionnaire allowed for multiple responses and recognised that these were not mutually exclusive categories.

**Table 1** Reasons for OTCs usage

Reasons for OTCs usage	New Zealand		Malaysia	
	f	%	f	%
Headaches	226	81.9	156	67
Colds and flu	225	81.5	126	54.1
Sore throat	202	73.2	117	50.2
Coughs	166	60.1	157	67.4
Muscle pain	116	42.0	26	11.2
Stomach-aches	102	37.0	109	46.8
Allergies/hayfever	101	36.9	15	6.4
Fever	74	26.8	159	68.2
Menstrual pain	71	25.7	24	10.3
Mouth ulcers	38	13.8	27	11.6
Sleeping aids	18	6.5	5	2.1
Others*	18	6.5	1	0.4

\* Includes dental pain, itchy bites, joint pain, knee pain, ear ache, etc. As respondents could choose as many options as applied, the sum will exceed sample sizes.

The top five reasons for usage in New Zealand were headaches (81.9%), colds and flu (81.5%), sore throats (73.2%), coughs (60.1%) and muscle pain (42%). The top five reasons for usage in Malaysia were for fever (68.2%), coughs (67.4%), headaches (67%), colds and flu (54.1%) and stomach-ache (46.8%). Although not in complete agreement with previous studies in terms of order, the findings in both countries reflected similar types of usage as elsewhere. For example, Emmerton and Shaw (2002) found that nearly half of the OTCs purchased in New Zealand were for coughs, colds or sinus conditions, followed by sore throats, hay fever and allergies. Chambers et al. (1997) found that OTCs were mostly used by adolescents in Canada for head pain, followed by stomach pain, ear and throat pain, muscle, joint and back pain, as well as menstrual pain.

A high percentage of adolescents in both study locations, (186 respondents or 67.4% New Zealanders and 180 respondents or 77.3% Malaysians) have purchased OTCs themselves. This finding is consistent with Sansgiry and Cady (1996) who documented purchases of OTCs by young adults. Table 2 presents the different sources from which adolescents obtained OTCs.

**Table 2** Sources of OTCs

Source	New Zealand		Malaysia	
	f	%	f	%
Family	227	82.2	180	77.3
Pharmacy	152	55.1	144	61.8
Supermarket	127	46.0	50	21.5
Friend	33	12.0	3	1.3
Convenience store	23	8.3	90	38.6

In both countries, the family was the most frequent source of OTCs. This was in accord with previous research by Chambers et al. (1997). The similarities between the adolescents in both countries suggested that, regardless of their cultural background, adolescents will go to their family to get medicines when they are sick. Family was followed by a pharmacy in both countries. The finding in Malaysia contradicted Hashim et al. (2007), who found that respondents preferred to buy OTCs from places other than pharmacies, except for multivitamins, wound care products, and of course, prescription drugs. The next most often used sources for OTCs were supermarkets for adolescents in New Zealand but convenience stores for adolescents in Malaysia. The finding in New Zealand concurred with a Euromonitor International (2010) report stating that many New Zealanders bought their OTCs from pharmacies and supermarkets. Unlike New Zealand, the fact that there are many small convenience stores in every residential area may explain why Malaysian adolescents obtained OTCs from convenience stores more often than from supermarkets. Obtaining OTCs from friends was among the least frequent sources in both countries.

### OTCs Consumer Socialization

Table 3 provides the frequencies for the various socialisation influences as reported by the subjects. It should be noted that the frequencies for normative and informational peer influences were presented only for those in the high category of influence. Similarly, for communication by school, the frequencies present responses for only high communication by school. For mass media the frequencies indicate responses for usage of the media, while for communication with medical personnel and retail staff, the frequencies indicated respondents who have consulted with these individuals.

The chi-square test of independence was used to explore the relationships between country and socialisation process. There was a statistically significant relationship between country setting and family communication pattern ( $\chi^2 = 21.45$ ,  $df = 1$ ,  $p = 0.000$ ). Malaysian adolescents in this sample were more likely to indicate that their parents exercised a concept-oriented type of family communication. This finding is quite surprising as, being a collectivist society, Malaysian parents were expected to exercise a socio-oriented family communication style (Rose, 1999; Rose et al., 1998) which emphasizes conformity to parental values. It was interesting to note that the New Zealand sample was almost evenly

split, although slightly more respondents indicated that their parents exercised a socio-oriented type of family communication. As an individualist society, New Zealand parents were expected to exercise the concept-oriented type of family communication (Rose, 1999; Rose et al., 1998). This study did not confirm this expectation but supports the study by Rose et al. (2002) that cultural differences in individualism versus collectivism cannot completely explain cross-cultural differences in consumer socialisation.

**Table 3** OTCs consumer socialisation process

Socialisation process	New Zealand		Malaysia	
	f	%	f	%
Family communication				
Concept oriented	136	49.3	163	70.0
Socio-oriented	140	50.7	70	30.0
Peer influence				
Normative	94	34.1	93	39.9
Informational	44	15.9	48	20.6
Mass media usage				
Television	126	45.7	178	76.4
Radio	23	8.3	50	21.5
Print media	76	27.5	142	60.9
Internet	197	71.4	102	43.8
Communication by school	14	5.1	19	8.2
Communication with				
Medical personnel	179	65.1	190	81.5
Retail staff	40	14.5	95	40.8

Peer influence was similar in both locations; normative peer influence ( $\chi^2 = 1.639$ ,  $df = 1$ ,  $p = 0.170$ ); informational peer influence ( $\chi^2 = 1.620$ ,  $df = 1$ ,  $p = 0.165$ ). The percentages for both types of peer influence suggest that peer influence was not perceived by teenagers themselves to be high. Two conclusions can therefore be drawn from these findings. First, regardless of culture, respondents were similar in their attempt to conform to peers' expectations about OTCs (normative peer influence) or to gather information about the products (informational peer influence). Second, peer influence was low with respect to socialisation of OTCs. This finding contradicts Sabri and Masud (2005) and Neeley (2005) who found high peer influence in consumer socialisation among teenagers and Chambers et al. (1997) on the important role that peers play in OTCs' consumption. Earlier, Moschis and Moore (1979) discovered that adolescents rely on peers more than on parents for products where peer acceptance is an important consideration, which may not be the case with OTCs. This may correspond to our earlier discussion suggesting that friends were among the least likely source for obtaining OTCs (refer Table 2).

The search for information from media revealed a statistically significant relationship between country setting and mass media usage; television ( $\chi^2 = 48.371$ ,  $df = 1$ ,  $p = 0.000$ ); radio ( $\chi^2 = 16.666$ ,  $df = 1$ ,  $p = 0.000$ ); print media ( $\chi^2 = 56.232$ ,  $df = 1$ ,  $p = 0.000$ ); and the internet ( $\chi^2 = 38.580$ ,  $df = 1$ ,  $p = 0.000$ ). The internet was the only medium in which New Zealand respondents scored higher than Malaysian. A closer look at each media revealed that in New Zealand, the internet was the most frequent source, followed by television. Very few adolescents would use print media or radio to any substantial degree. This indicates how powerful the internet has become among adolescents. This is also reflected in the survey in 2007 by Nielsen/NetRatings, a commercial media research company, which revealed that young New Zealanders were enthusiastic internet users. Almost all respondents (91.7%) in New Zealand accessed the internet from home, followed by school (70.8%). Overall, 16.7% of New Zealand respondents spend more than three hours a day on the internet for personal use. It was also reported in the Nielson Panorama Survey (2006) that those in the 15-25 years age group in New Zealand were less likely to read newspapers (Comrie et al., 2007). That may explain why print media had little impact on the respondents. Nearly half of the respondents indicated they would use television as a source of information, a consequence, perhaps, of the high exposure of medicines advertisements on New Zealand television. Norris et al. (2005) reported there were 340 medicine advertisements screened on New Zealand television with an average of 1 per 102 minutes, of which 37% were advertisements for OTCs.

Adolescents in Malaysia use television as source of information, followed by the internet. This finding supports deMooji (2010) that television was an important medium in collectivist society. The internet was mainly accessed from home (68.7%) or cybercafés (47%). Overall, 20.6% of the respondents spend more than three hours on the internet for personal use every day. An earlier study by Wee (1999) found the average time Malaysian teenagers spent on the internet was 4.89 hours per week and that very few used it for study-related activities. Two conclusions can be drawn from this finding. First, in both countries, the least-used form of media chosen was radio, supporting earlier research by Mehta and Keng (1985). Second, the use of the internet has grown dramatically among adolescents in both countries, which supports the findings of Singh et al. (2003) and Kaur and Medury (2011). Taking into consideration the high rate of access (98.6% and 84.5% of the respondents in New Zealand and Malaysia respectively, had access to the internet) and usage of the internet among the respondents, it is obvious that this media will be used as a commercial communication tool. These findings suggest that in order to maximise their resources and economic efficiency, marketers should only use the most common and popular media this market segment uses.

With regard to communication by schools in both countries, school seemed not to play an important role in educating the respondents about OTCs ( $\chi^2 = 1.504$ ,  $df = 1$ ,  $p = 0.159$ ). This finding was consistent with Chambers et al. (1997), although their study was conducted over 13 years ago. This result was rather disappointing, as adolescents spend much of their time in school. A closer look at the analysis also suggested that the issue of OTCs was not highlighted in schools, whether as a curriculum or non-curriculum subject. Schools seemed to only focus on illegal drugs, ignoring legal drugs like OTCs. .

Country setting was significantly related to communication with medical personnel ( $\chi^2 = 116.364$ ,  $df = 1$ ,  $p = 0.00$ ) and retail staff ( $\chi^2 = 43.130$ ,  $df = 1$ ,  $p = 0.000$ ). Over half of the respondents in New Zealand had consulted medical personnel for information and advice if they were not sure about OTCs, and only a small percentage had consulted retail staff. Although the percentages in Malaysia were higher for communication with medical personnel and retail staff, overall the results show adolescents in this sample seek information about the medicines from professionals and do not only rely on information from family and friends, thus contradicting Stephens and Johnson's (2000) finding.

### **Limitations of the Study**

This study has several limitations that need to be acknowledged when assessing the findings and their implications. The first issue is the generalisability of the results. The sample consisted of high school students in two major cities in New Zealand and Malaysia, which may not be representative of the entire populations in the respective countries. However, the limit of just one city to represent each country was necessary for the very practical reasons of financial and time constraints. A larger sample from different regions of both countries would have provided more generalisable results. In spite of this, the sample appeared to at least represent the ethnic compositions of the population in each country. Another concern was that the data were collected in Malaysia and New Zealand in order to represent the eastern and western cultures. However, there are many countries in the east and west whose consumers might have different perspectives from those in New Zealand and Malaysia. Under these conditions, generalisation of findings may not be appropriate.

### **Theoretical Contribution**

This study has confirmed and augmented our knowledge of the consumer socialisation process in various ways. First, school was not found to play a role in the socialisation of OTCs. While some studies have documented the importance of school as a socialisation agent (Lachance & Legault, 2007; Yan & Xu, 2010), other researchers have failed to establish the role of the school as an agent in educating the adolescent as consumer (Churchill & Moschis, 1979; Moschis & Churchill, 1978; Moschis & Churchill, 1979). This finding suggests that schools may educate adolescents on certain aspects of the consumer experience but that their contribution needs to be improved.

Another theoretical contribution of this study comes from its attention to cultural factors. The use of media to locate information about OTCs was significantly different between the two samples. The use of the internet was the only medium that respondents in New Zealand would use to a substantial degree while in Malaysia respondents indicated that they would use a wider variety of media. For example, the use of television was high among Malaysian respondents, which confirms our current knowledge that television is an important medium in collectivist and high power distance societies (de Mooij, 2010; Hofstede, 2001). Results in Malaysia also verified Sabri and Masud's (2005) study in the

use of television, print media and the internet. The finding in New Zealand confirmed Comrie et al. (2007) regarding the use of the internet and newspaper reading.

Another finding concerns the concept-oriented and socio-oriented communication patterns within individualistic and collectivist societies. Whilst Rose et al. (1998) and Rose (1999) found that a collectivist society might be more socio-oriented and an individualistic society might be more concept-oriented, the current study found different results. Perhaps this could be because in the collective society, the caring for family could include an open discussion about topical issues like OTC use where, if we were looking at a society in a strictly individualist sense, parents might not take the time for these types of discussions as they pursue their own goals. This study also found that peer influence was almost identical in both cultures. While no study in consumer socialisation has investigated cross-cultural differences in terms of susceptibility to normative or informational peer influence, the cross-cultural consumer behaviour literature suggests that differences between nations should be present (Hofstede, 1980; Singh et al., 2003). One would expect collectivist societies to be more susceptible to social influence in that they emphasize harmony and conflict avoidance. The maintenance of the harmony imperative suggests that people would conform to what their peers thought (normative peer influence) or actively consider other people's opinions (informational peer influence) (Kongsompong, Green, & Patterson, 2009). These behaviours signify a collectivist society and thus Malaysian respondents should be high in normative and informational peer influence. They were not in the present study. Perhaps the contradictory findings in family communication and peer influence were due to the fact that Hofstede's (1980) indices of culture were based on data collected in the 1970s and the elements of culture that lead to the development of Hofstede's dimensions are likely to have evolved. There have very clearly been cultural shifts since then, if only because of the enormous changes brought about by the worldwide web. Differences may also be due to the fact that this sample consisted of adolescents and Hofstede's study was based on adults. The present study has therefore provided insights into the impact of cultural differences on adolescents and suggested that these can be different from those on adults. It is also possible that, by virtue of being teenagers, the respondents were similar regardless of culture, suggesting that a global culture may determine how teenagers communicate with their families or how open they may be to peer influence. Certainly the results of this study suggest that the New Zealand and Malaysian adolescents in this sample here were rather similar.

### **Contribution to Policymakers and Marketers**

The results of this study showed that self-medication with OTCs was widespread among the respondents. This study also showed that schools did not play an important role in educating the survey respondents about OTCs. The insignificant role of school in educating these adolescents about OTCs should be of great concern and necessary remedial steps should be taken. This may include incorporating information about OTCs into health education classes or inviting speakers to talk about OTCs.

Besides school, comprehensive communication campaigns and educational programmes should be designed using carefully selected media. Public policy officials should choose media that are popular with adolescents to ensure they have an enhanced likelihood of reaching young people. The result showed 27.5% and 60.9% of adolescents in New Zealand and Malaysia respectively will read printed media to get information about OTCs. This suggests communication campaigns about OTCs can be delivered through this media, more so in Malaysia. Magazines that target teenagers would be a good medium to achieve this.

The result also showed the internet was a popular medium among adolescents for obtaining information about OTCs. As such, it would be a useful mechanism for the provision of information to this generation. The internet-based resources should be interactive, to help adolescents make knowledgeable decisions and discourage the formation of inappropriate behaviour with OTCs. This suggestion aligns with Hyunjae, Hye-Jin, & Bumjun's (2008) finding that the internet is a major medium for promoting health behaviour.

Another popular medium among adolescents in both countries is television. Advertisements showing preventive measures or warnings similar to those for tobacco and alcohol should be considered. These messages may be aired during commercial breaks in adolescent-targeted TV programmes. To ensure effectiveness, the content of these advertisements/ programmes should be attractive and factual in conveying messages to adolescents.

Knowing where adolescents obtain their OTCs and the agents relevant to the OTCs' socialisation process can assist marketers in developing appropriate information and sales strategies. For example, this study showed that radio was not an important socialisation agent in either culture. Marketers should therefore direct their marketing efforts towards other media or socialisation agents that have greater influence. It is also evident in this study that New Zealand and Malaysian adolescents are distinct in their use of media; therefore a different marketing channel for promotion purposes is appropriate. While in New Zealand, the internet would be likely to be the best medium, in Malaysia marketers should use television.

Overall, the findings from this study may help marketers understand the influential variables to be considered when attempting to target teenagers in the sale of OTCs. Such an in-depth understanding is, indeed, important to better understand adolescents both as a current market and as the future generations of consumers. Because medicines can potentially either harm or improve health (Norris et al., 2005), promotions of OTCs may raise ethical issues and marketers should be aware of this when designing their marketing strategies.

## **CONCLUSION**

While it was expected that, as members of a collectivist society, Malaysian parents would be more socio-oriented in their family communication patterns, results indicated the opposite. The New Zealand sample is almost evenly split in communication patterns; this was also not as expected. Results for peer influence were similar in both countries, where it was low

in both normative and informative types. Media usage was significantly different, although in both locations the samples would use radio the least to gather information. The internet was the only medium that New Zealand adolescents would use more than Malaysian respondents. Somewhat surprisingly, the role of school was insignificant in both locations. Significant differences were also noted in communication with medical personnel and retail staff between the countries, where Malaysians were more likely to have consulted with these individuals. However, overall, medical personnel were consulted more by the sample than retail staff.

In general pharmaceutical marketers and academic researchers should note that this study is important not only because adolescents are currently consumers of OTCs, but because as this younger population group begins to age, they become a stronger customer base for a wide range of pharmaceutical products. Adolescent consumption habits may be perpetuated into adulthood, demonstrating brand loyalty and enhancing brand equity as a result.

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