



Cultural Identity and Consumption Behavior of Female Oriented IP Community

- a case study of Miracle Nikki gamers

Huan Fang¹, Min Mai², Yanting Zhang^{3*}

¹Guangzhou College of Technology and Business

²Pingzhou Center Primary School, Guicheng Street

³Guangdong Industry Polytechnic

huan_fh@163.com

1963144942@qq.com

zyt621_3@163.com

Abstract. In the past few years, the extensiveness and activity of IP communities in mobile games have attracted the attention of merchants and the participation of players continuously. Among the numerous mobile game IP communities, female users have gradually shown formidable consumption power due to their growing consumption desire. However, in the current mobile game industry, how to develop the female market and how to stimulate the potential consumption power of female users need to be further deepened. In order to control uncertainty and improve pertinence more effectively, taking the IP community of Miracle Nikki mobile game with young (post-1990s and post-2000s) female consumers as the research object, adopting the questionnaire survey method, from the recovered data, various variables such as age, gender, and consumption habits of different users were cross-analyzed. The construction level of female-oriented mobile game IP community culture was explored, and the conclusion that consumption behavior and consumption characteristics within the community were related was drawn accordingly.

Keywords: IP community; female mobile game IP; Miracle Nikki; cultural identity; consumer behavior.

1 Introduction

According to the National Economic Statistical Announcement ^[1] (2021) and corporate operating income data ^[2] (2020) released by the National Bureau of Statistics, the public ownership of wireless devices such as mobile phones in my country has been increasing in the past few years. Under the premise of the high popularity of basic hardware across the country, the rapid growth of the new business form of "Internet plus Culture" has been realized. In this social context, industries and enterprises with a large base of users have taken advantage of the situation to develop and continue to

expand their influence among the public with continuous innovation and upgrading of various forms of IP¹ products. As a specific user group linked by the same IP cultural identity, the IP community² played a non-negligible role in the development and economic transformation of IP culture. In terms of the establishment of early word-of-mouth for enterprise IP products and the maintenance of later users, the IP community provided a stable and controllable channel. What's more, the experience and communication of users in the same sub-cultural circle were often accompanied by the occurrence of consumption behavior.

As a mobile game designed with female consumers as the main target users (namely "female-oriented"), *Miracle Nikki*'s playing patterns contain storyline and love simulation (see Figure 1). Compared to other female-oriented games, *Miracle Nikki* was not such kind that implies feminism and female gaze. After *Miracle Nikki* was launched, it ranked second in the App Store total list and game download list in 2015^[3] (Qimai data, 2015), female users accounted for 73.83% within two years^[4] (Analysis Qianfan, 2017). By July 24, 2022, *Miracle Nikki*'s followers on Super Topics in Weibo reached 1.039 million^[5]. Therefore, it was rather representative to take the *Miracle Nikki* IP community with sufficient users and vigorous vitality as a research example. By means of a questionnaire survey, the cultural identity of female consumers on mobile game IP and the consumption behavior stimulated by cultural identity were investigated, and the correlation between female consumers' consumption behavior and cultural identity in the mobile game IP community was verified in this paper.

¹IP, the English abbreviation of "Intellectual Property", its original meaning is intellectual property, mainly including copyright and industrial property. Common IP forms include patents and trademarks, written works, movies and TV series, online games, etc.

²A community is the connection of a group of people. In the process of connecting people, with the help of a series of means, such as warm content, valuable products, meaningful activities, unified values, common community goals and common interests of all group members, various subcultures, mutual benefit mechanisms, cooperation models, etc., enables a group of like-minded people to deeply aggregate and link further.



Fig. 1. Pictures of Miracle Nikki

2 AISAS analysis of consumer behavior and cultural identity

In response to the new changes in the consumption patterns of Internet consumers, the AISAS consumer analysis model was proposed by Dentsu Corporation, which held the belief that in the Internet era, consumers' consumption behavior mainly follows "Attention → Interest → Search → Action → Share" process [6] (TANG, 2021). If analyzed according to the ISAS model, the player's consumption behavior of Miracle Nikki was roughly as follows:

STEP 1: Through the recommendation of others or the game rankings, the game Miracle Nikki has been noticed by potential players;

STEP 2: Through the introduction of Miracle Nikki and the information shared by players on the Internet, potential players began to become interested in this game;

STEP 3: Search through the APP, and Miracle Nikki is downloaded by potential players;

STEP 4: Players of the game start to play Miracle Nikki and buy virtual products;

STEP 5: The players of the game share their playing experience.

In view of the characteristics of the Internet ecology, the AISAS model was of great significance in promoting merchants to grasp the "attention" point and pay attention to the online public praise implied by "sharing". However, the author believed that these meanings could not cover up the defects of directionality and one-sidedness in the academic sense of this model, which was mainly reflected in: ① Can the improvement of user's subjective initiative brought by the era of mobile internet change

the order of attention and interest?^[7](Liu and Chen, 2013); ② Is there a direct correlation between the sharing of current user A and the attention of potential user B, or is it still affected by other variables? ③ In the path of "search → action", are there other factors that influence it? Regarding these issues, this article held the view that the IP community formed based on the construction of cultural identity played a role in attracting (that is, "follow") to join to users with similar "interests" (whether current or potential users). Moreover, through playing and "sharing", the stability of players' consumption "actions" has been further consolidated, and these behaviors may all be stimulated by "cultural identity". In response to the above discussion, according to the survey conducted by Wang (2020) on Onmyoji mobile game players, the conclusion that there is a mutual construction relationship between "player consumption behavior and characteristics" and "player's cultural identity with IP" was drawn ^[8]. Considering that the proportion of male players in Onmyoji was relatively large, whether this mutual construction relationship is applicable to the gradually rising female player group required further verification and supplementation.

3 Questionnaire survey results on consumer behavior and cultural identity of " Miracle Nikki " users

3.1 Questionnaire content and distribution

The questionnaire content mainly includes the four sections as follows:

- The first section was the basic information of the players of Miracle Nikki who were surveyed and the usage situation of this mobile game so far. The purpose was to distinguish and compare the time and money spent on this mobile game by players of different categories and different levels of love.
- The second section was to distinguish whether players have invested money in the game. The sub-situation research on the consumption behavior of different players was conducive to the analysis of the consumption concept of the player group of Miracle Nikki mobile game.
- On the basis of the second section, the third section distinguished whether players with different consumption views accept and recognize different IP communities of Miracle Nikki, whether they choose to join different communities, the reasons why users choose to join the community, and whether joining the community is beneficial to increase the player's love for Miracle Nikki mobile game, etc. The purpose was to study the relationship between the consumption behavior of different players and the accompanying cultural identity.
- The fourth section was the suggestions made by different players on the IP of Miracle Nikki mobile game. This part was a subjective answer, through which more factors that affect players' acceptance and recognition of this mobile game culture could be revealed.

Given that a great many players will spontaneously form or join fan communities of various platforms (such as Weibo, WeChat, Q group, Tieba, etc.), publishing ques-

tionnaires directly in real life may lead to inaccurate positioning of survey objects. Therefore, this questionnaire was mainly distributed to the following groups:

- Official online community participant of Miracle Nikki.
- Members of "Miracle Nikki's User/Fan Group" on various online platforms.
- Publishers who shared Miracle Nikki videos and commenter who posted messages on various online platforms.
- Friends who have used the Miracle Nikki IP mobile game in their personal social circles.

A total of 367 questionnaires were distributed and collected on various online platforms for this electronic questionnaire. After data cleaning, a total of 9 invalid questionnaires were screened out, a total of 358 valid questionnaires, with the effective recovery rate was about 97.55%. The reliability of the phenotype questions in the questionnaire was analyzed, and the reliability statistic after excluding invalid questionnaires was 0.738, which is greater than 0.7. Consequently, the questionnaire data was credible.

3.2 Statement of the results of the questionnaire survey

3.2.1 Overview of IP community users under cultural identity.

(1) *The demographic structure of Miracle Nikki players who received the questionnaire survey were shown in Table 1.*

Among players of all ages in this survey, the number of "post-00" players was 264, with the largest proportion, accounting for 74%; there was a significant gap between the number of male and female players, with a ratio of about 7:93. Among them, the number of players who meet both the "post-00" and "girls" conditions was 249, accounting for 70% of the total sample, which indicated that the IP culture of Miracle Nikki mobile game was more popular with young female players.

Table 1. Basic data table of 358 players

Category		Post-1980s (1 person)	Post-1990s (87 person)	Post-2000s (264 person)	Others (6 person)	Total (358 person)
Gender	Male	0	10	15	1	26
	Female	1	77	249	5	332
Occupation	Student	0	47	246	4	297
	Freelancer	0	9	9	0	18
	Company employee	0	14	4	0	18
	Housewife	0	1	0	0	1
	Unemployed/ between jobs	0	7	1	0	8
	Others	1	9	4	2	16
	Within half a year	0	25	28	1	54
Contact time	Half a year-one year	1	9	21	1	32

One year - two years	0	13	47	3	63
More than two years	0	40	168	1	209

(2) *The analysis of community players' preference for the IP of Miracle Nikki mobile game was shown in Figure 2.*

The number of players who prefer Miracle Nikki mobile game was the largest, accounting for 70%. There were 250 people who regard Miracle Nikki as one of the most used games for the duration and frequency of use. Among these 250 people, 218 players played less than 2 hours a day. Among the players who answered the last subjective question of the valid questionnaire "Do you think you will continue to like the game "Nursing Love" in the next two years", 200 players said they would continue to like it, even 100 players answered it more detailed, because they have developed deep feelings for the "Miracle Nikki" characters in the mobile game. Accordingly, a strong cultural resonance has been generated between the mobile game and most of the surveyed players, showing high loyalty and dependence.



Fig. 2. Players' preference for the "Miracle Nikki" mobile game

(3) *The influence of mobile game IP culture on players' social behavior.*

According to the user data currently collected, among the 270 users who have chosen to join the Miracle Nikki mobile game social group, 240 users have joined the QQ and WeChat groups; When asked about their reasons for joining, "willing to share game experiences with people who share common interests" and "convenient to obtain the latest game information or activities in a timely manner" are the choices of the most users. (Table 2). within the 270 players who have joined the Miracle Nikki mobile game community, 233 users believe that the establishment and activity of the game community was beneficial to increase their love for the game (see Figure 4).

Table 2. The social impact of the "Miracle Nikki" mobile game on users

Options	Subtotal	Proportion
Yes	233	86.30%
No	37	13.70%
Number of valid fills in this question	270	100%

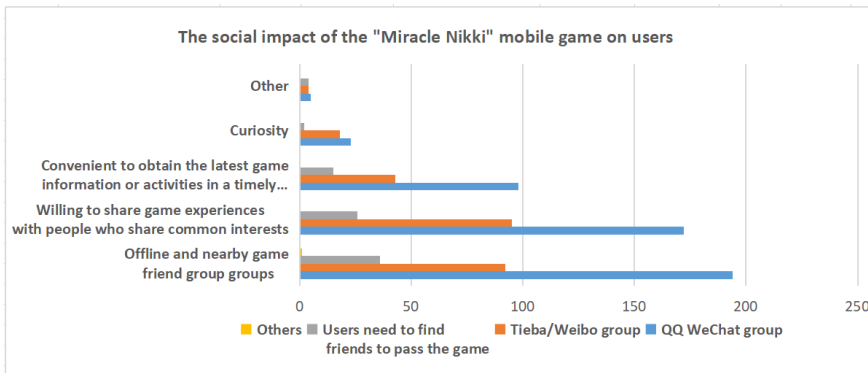


Fig. 3. Influence of the establishment of a mobile game community on players' love for the game

Based on the above analysis, the establishment and activity of IP communities have social function attributes for players, which is conducive to allowing players to establish their own "identity space" online, resulting in increased user stickiness and loyalty.

2.2.2 Different consumption behaviors and reasons of IP community members.

Among the player groups surveyed, the proportion of consuming players and non-consuming players was 77:23. Among the 276 users who have consumed the mobile game, 255 were females, accounting for 92%. In terms of consumption amount, most users spent less than 500 Yuan, regardless of whether they were male or female. It is worth noting that the proportion of males in the high-amount (over 20,000 Yuan) consumer group was higher (as Figure 5). In the direction of consumption, the ratio of purchasing virtual items to surrounding physical items was 96:4.

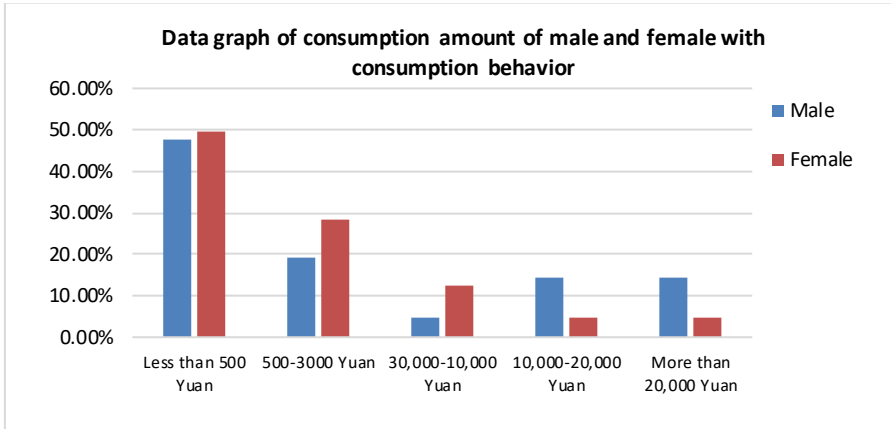


Fig. 4. Data graph of consumption amount of male and female with consumption behavior

(1) Reasons for consumption of community users in Miracle Nikki (Figure 6).

As a dressing-up simulation mobile game, an important reason why Miracle Nikki can stand out among many peers was that whether the overall style, or the details of characters, clothes, and environments, this game maintained a higher level than the same level, and maintained a high frequency update rate. At the same time, players can change the color of the clothes and simply dismantle them based on their own preferences. It provided users with a fully dynamic play experience by freely matching clothes, clothing and other functions. Among the respondents, 87.68% of the survey respondents caused consumption behavior because the items in the mobile game conformed to the player's aesthetics. Another obvious reason was that players find their own satisfaction by purchasing virtual items and showing them off to others or in private collections.

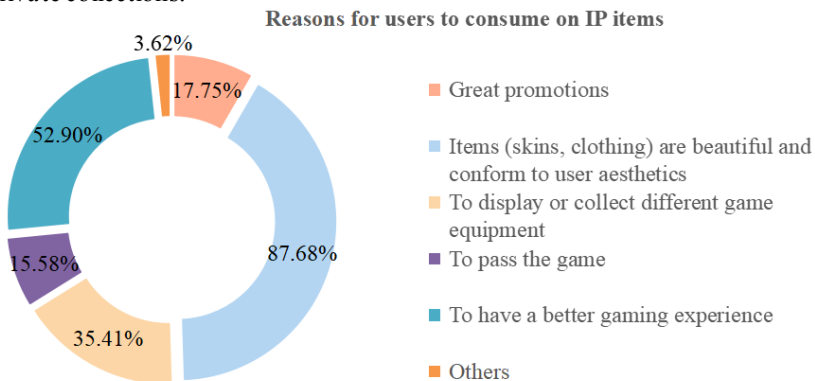


Fig. 5. Reasons for users to consume on IP items

(2) *Reasons why community users are unwilling to consume in Miracle Nikki.*

Among the 82 players who were unwilling to spend on mobile game IP, 89% were student players. The purchase desire of student players was limited by low disposable income, forming the main reason for their reluctance to spend. Furthermore, a considerable number of players said that the low cost performance or low temptation of paid items could not arouse their desire to buy (Figure 7).

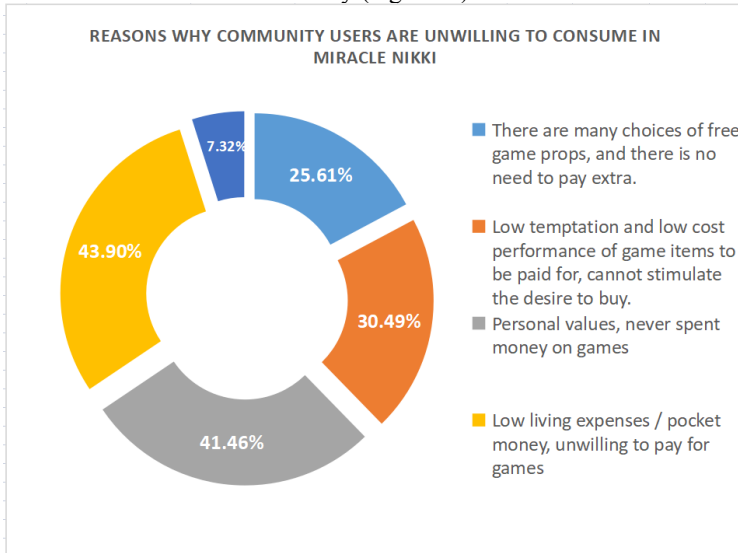


Fig. 6. Reasons why community users are unwilling to consume in Miracle Nikki

In the subjective question "Do you think the "Miracle Nikki" game is perfect? If so, what aspects can be improved? Among the 358 player users, 54 players believed that the official items in the game were overpriced and unfriendly to the student group. In terms of recharge and price concessions, it was recommended to be improved. However, even among the players who expressed their opinions on the price, 42 players, who accounted for 78%, affirmed the last question "Do you think you will continue to love the game "Miracle Nikki" in the next two years?" Most of the reasons are the sense of dependence on "have developed feelings for game characters" and the sunk cost³ considerations of "too much investment in time and money, unwilling to give up".

³Refers to the cost paid and cannot be recovered

4 Interaction between consumption behavior and cultural identity of the IP community of “Miracle Nikki”.

Through a survey of 358 users of the Miracle Nikki mobile game IP community, analysis of the questionnaire data and research results of other scholars on the IP community, the following conclusions were drawn:

4.1 Interaction between community cultural identity and social behavior of community users

Through the precise search of the community during the release of the questionnaire and the analysis after data recovery, it was found that, currently, social platforms such as QQ group, Tieba, Weibo group chat and Super Topics in Weibo, which were easy to find and highly used by the public, were more likely to be joined by most community players. For those who join the group, the group chat threshold has been set, and they must be loyal players of Miracle Nikki. Those who join the group were continuously inspected through the number and content of chats, and the "pretenders" are excluded up. As a result, the strong individual identity of the Miracle Nikki IP community was reflected. In the online community, community members could share their matching results of Miracle Nikki mobile game characters, exchanged game experience with each other, and even the morning and evening greetings and daily chat exchanges were closely related to the Miracle Nikki mobile game IP. In general, the establishment and stability of the community was promoted by community members' cultural recognition and love of IP products. The questionnaire data also indicated that in turn, users' preference for IP products was enhanced by the establishment and activity of the community.

4.2 IP community users have obvious entertainment and emotional consumption

As a game targeting young female users, this game had a low threshold for getting started and is easy to operate. The nature belongs to the mobile game of the dress-up development type.

The "seven great kingdoms" in the background culture of the mobile game had different styles, and the clothes on the official website were unique. There were 28 classified clothing style tags in the game, corresponding to 5 different clothing attributes. Among users who have consumed IP products, in order to make the "Nikki" character in the mobile game have a higher level and players have a better sense of game experience, they often recharged to buy or use the virtual currency in the game to exchange. Therefore, user consumption was enabled with entertainment characteristics.

According to the subjective question 21, only 215 of the 276 consumer players said they would continue to love the Miracle Nikki mobile game in the next two years. Among the specific reasons listed, half of them were because the Miracle Nikki mo-

bile game conformed to their own aesthetics. A bigger part of the reason was that the role of "Nikki" in the game was regarded as a "daughter" by players, and a lot of time, money and feelings were invested in the "daughter". This kind of emotional consumption derived from the emotional characteristics of women was expected to become the main point of female game merchants and related research.

4.3 Interaction between the cultural identity of the IP community and consumer behavior

The cultural background of the Miracle Nikki mobile game was itself a virtual matchmaking world. As players use mobile games, the product culture was continuously experienced and accepted, and a unique cultural identity is naturally formed. In order to obtain more game freshness and a better experience, the design of the game itself promoted user consumption. And as a developmental game, through the long-term investment of time and money in this mobile game IP, the loyal user group of this mobile game has also been maintained.

The data was analyzed with "whether you have consumed the "Miracle Nikki" mobile game" as the independent variable X, and the 8th question (Table 3) and the 6th question (Table 4) as the dependent variable Y. After distinguishing users of different consumption types in the data, it was found that the users who have consumed the Miracle Nikki and the frequency of using games were generally higher than those who have not consumed. Consequently, cultural identity and product love can also be promoted by the consumption behavior of the IP community.

Table 3. Analysis of the degree of love of "Miracle Nikki" by different consumer players

Question 6. How often do you play Miracle Nikki per week (multiple choice)					
X/Y	Rarely, less than once a week	1-2 times a week	3-5 times a week	Almost every day	Subtotal
Yes	31 (11.23%)	28 (10.14%)	17 (6.16%)	200 (72.46%)	276
No	19 (23.17%)	11 (13.41%)	9 (10.98%)	4 (52.44%)	82

Table 4. Analysis of the frequency of use of "Miracle Nikki" by different consumer players

Question 8. How much do you like Miracle Nikki game (multiple choice)				
X/Y	I like it normally, just to have fun when I'm bored	I prefer this game, the frequency of use is high	I love Miracle Nikki game very much, only play this one	Subtotal
Yes	45 (16.30%)	200 (72.46%)	31 (11.23%)	276
No	27 (32.93%)	50 (60.96%)	5 (6.10%)	82

5 Conclusion

Taking young female consumers as the main force, the IP community of Miracle Nikki mobile game is the research object, the relationship between cultural identity and consumer behavior within IP communities was explored in this paper. Starting with

the female IP community of the mobile game *Miracle Nikki*, the correlation between cultural identity and consumption behavior was verified by this survey. Combined with Wang's (2020) research on *Onmyoji* mobile games [8], basically, it can be considered that this correlation existed widely in the mobile game IP market and had a low correlation with gender factors. Moreover, there were two more noteworthy findings from this study: ① the mutual construction of community cultural identity and social behavior of community users; ② IP community users have obvious entertainment and emotional consumption. In view of *Miracle Nikki*'s female player preference, whether these two points were affected by female personality characteristics still needs further comparative research. Meanwhile "academic credentials" and "disposable income (including loans)" were not considered in the basic information of this survey. Under the changing social atmosphere of "laying flat" [9] (Lin and Gao, 2021) and "advanced consumption" [10] (Yang and Huang, 2022), whether these two variables will bring interesting changes to the conclusions of this paper can also be regarded as a follow-up empirical investigation direction.

References

1. National Bureau of Statistics. Statistical Bulletin of the People's Republic of China on National Economic and Social Development in 2020 [EB/OL]. http://www.stats.gov.cn/tjsj/zxfb/202102/t20210227_1814154.html.
2. National Bureau of Statistics. J. Xin, a statistician from the Department of Social Sciences and Culture of the National Bureau of Statistics, Interpretation of the operating income data of cultural and related industrial enterprises above designated size in the first three quarters [EB/OL]. http://www.stats.gov.cn/tjsj/sjjd/202010/t20201030_1797142.html.
3. Qimai data <2015 *Miracle Nikki* App Store download ranking data> [Z].2015. <https://www.qimai.cn/rank/index/brand/grossing/device/iphone/country/cn/genre/6014/date/2015-06-29>.
4. Analysys Qianfan <2017 *Miracle Nikki* user data> [Z].2017. <https://qianfan.analysys.cn/refine/view/pageApp/pageApp.html?pageType=appAnalyse&appId=2992363>.
5. Weibo super topic, *Miracle Nikki* data on July 24, 2022.
6. L. Tang. Influencing factors of e-commerce social platform marketing performance—consideration under the AISAS model framework [J]. *Business Economics Research*, 2021(19):76-79.
7. D. Liu, S. Chen. New Laws of Advertising Communication: From AIDMA, AISAS to ISMAS [J]. *Grand View of Advertising (Comprehensive Edition)*, 2013(04): 96-98.
8. Q. Wang. The symbolic consumption and cultural identity of the IP community-taking the mobile game "*Onmyoji*" players as an example [J]. *Southeast Communication*, 2020(08):84-88.
9. L. Lin, Y. Gao. "Laying Flat Youth": An Explanation of a Structural Dilemma [J]. *China Youth Research*, 2021(10): 78-84. DOI:10.19633/j.cnki.11-2579/d.2021.0152.
10. J. Yang, Z. Huang. The performance, essence and overcoming of my country's consumerism trend [J]. *Ideological Education Research*, 2022(02):67-72.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

