

## **EXPLORING BARIATRIC PATIENTS' NEED FOR NOVELTY IN A MOTIVATIONAL PHYSICAL ACTIVITY PROGRAM: A QUALITATIVE STUDY**

David González-Cutre; Alejandro Jiménez-Loaisa;  
María Romero-Elías; Vicente J. Beltrán-Carrillo

Department of Sport Sciences, Sport Research Center, Miguel Hernández University of Elche, Spain.

---

### **ABSTRACT**

The need for novelty has recently been proposed as a candidate basic psychological need within self-determination theory. The aim of this qualitative study was to throw more light on this issue, by exploring the perceived importance that bariatric patients gave to novelty in general life and in a physical activity program in which they participated, which included novelty support strategies. Participants were ten people (nine women and one man) aged between 31 and 59 years ( $M = 45.90$ ,  $SD = 9.25$ ) who had lived with morbid obesity and who had undergone bariatric surgery. Qualitative data about the importance of novelty in their life and in the physical activity program were collected through semi-structured interviews. Participants described the important role of novelty in life to break the routine and to avoid boredom, lack of interest, depression, and withdrawal from daily life activities. Regarding the physical activity program, they highlighted that the presence of novel activities was related to their curiosity, enjoyment, and knowledge acquisition. Participants indicated that novelty was a key element for the success of the program because only a traditional intervention with machines for endurance and strength training would be boring for them. This research has shown that novelty need is present in the life of bariatric surgery patients, and its satisfaction could be related to different positive outcomes and well-being in life and in an exercise context.

**Keywords:** variety, motivation, instructor support, exercise adherence

## **EXPLORANDO LA NECESIDAD DE NOVEDAD DE LOS PACIENTES BARIÁTRICOS EN UN PROGRAMA MOTIVACIONAL DE ACTIVIDAD FÍSICA: UN ESTUDIO CUALITATIVO**

### **RESUMEN**

La necesidad de novedad ha sido propuesta recientemente como una necesidad psicológica básica dentro de la teoría de la autodeterminación. El objetivo de este artículo cualitativo fue arrojar más luz en este sentido, al explorar la importancia que los pacientes bariátricos dieron a la novedad en su vida en general y en un programa de actividad física en el que participaban, el cual incluyó estrategias de apoyo a la novedad. Los participantes fueron diez pacientes (nueve mujeres y un hombre) de edades comprendidas entre 31 y 59 años ( $M = 45.90$ ,  $DT = 9.25$ ) que habían vivido con obesidad mórbida y que se habían operado de cirugía bariátrica. Se recogieron datos cualitativos sobre la importancia de la novedad en sus vidas y en el programa de actividad física a través de entrevistas semiestructuradas. Los participantes describieron el papel relevante de la novedad en su vida para romper con la rutina y para evitar el aburrimiento, la falta de interés, la depresión, y el abandono de actividades cotidianas. Respecto al programa de actividad física, destacaron que la presencia de actividades novedosas estuvo relacionada con su curiosidad, disfrute, y adquisición de conocimiento. Los participantes indicaron que la novedad fue un elemento clave para el éxito del programa porque una intervención tradicional basada en máquinas para el trabajo de resistencia y fuerza sería aburrida para ellos. Esta investigación mostró que la necesidad de novedad está presente en la vida de los pacientes bariátricos, y que su satisfacción podría estar relacionada con diferentes resultados positivos y con su bienestar en la vida y en un contexto de ejercicio.

**Palabras clave:** variedad, motivación, apoyo del instructor, adherencia al ejercicio

---

*Correspondence:*

David González-Cutre

dgonzalez-cutre@umh.es

Department of Sport Sciences, Sport Research Center, Miguel Hernández University of Elche,  
Spain.

*Submitted:* 10/10/2019

*Accepted:* 10/12/2019

## INTRODUCTION

Self-determination theory (see Ryan & Deci, 2017 for a review) is one of the most widely used motivational theories to explain behaviors in health contexts (Ng et al., 2012). This theory considers that social agents (e.g., healthcare professionals, family, friends) contribute to satisfy or thwart people's basic psychological needs, and this satisfaction or frustration is related to different levels of quality of life and well-being. According to self-determination theory, all people have the basic psychological need to feel that they are able to successfully carry out the different activities in which they are involved (competence); that they can make decisions by their own without pressures (autonomy); and that they are connected with other people and have good relationships (relatedness). Recent research on this theory (Bagheri & Milyavskaya, 2019; González-Cutre, Romero-Elías, Jiménez-Loaisa, Beltrán-Carrillo, & Hagger, 2019; González-Cutre, Sicilia, Sierra, Ferriz, & Hagger, 2016) has proposed that people could also have a basic need for novelty, which is defined as the need to experience something not previously experienced or that differs from the experiences that comprise a person's everyday routine.

Although different studies have tested Ryan and Deci's (2017) inclusion criteria to consider novelty as a basic psychological need (see González-Cutre et al., 2019 for a review), some of these criteria need more evidences to be supported. In this regard, previous studies in several contexts have shown that satisfaction of novelty was positively associated with well-being and positive outcomes (Bagheri & Milyavskaya, 2019; González-Cutre et al., 2019; González-Cutre & Sicilia, 2019; González-Cutre et al., 2016), while its frustration was negatively associated with them (Bagheri & Milyavskaya, 2019; González-Cutre et al., 2019; Trigueros, Aguilar-Parra, López-Liria, & Rocamora, 2019), over and above the variance accounted for by the three basic psychological needs (competence, autonomy, relatedness). However, the positive relations between novelty frustration and ill-being remain untested. Moreover, more research is necessary to show that perceived novelty could mediate between the social environment and different outcomes, and that novelty is a growth need rather than a deficit need that operates only when other basic psychological needs are threatened.

In this study, ten post-bariatric patients who participated in a physical activity program based on self-determination theory were interviewed about the importance of novelty in their life and in the physical activity program. Qualitative research on self-determination theory is topical and timely (e.g., Hancox, Quested, Ntoumanis, & Thøgersen-Ntoumani, 2018; Sebire et al., 2018) because it offers a more flexible framework for new ideas to emerge that could be especially interesting for theoretical innovation and discussion, whereas data coming from quantitative questionnaires are related to pre-established

variables. This study aimed to better understand why novelty could be a key factor for people's motivation to adopt healthy behaviors in general life and in a specific intervention in the exercise context. In this regard, this qualitative approach could provide in-depth data on the important mediating role of novelty need satisfaction between social factors and positive outcomes. We should highlight that this study applied novelty support strategies, together with strategies to support competence, autonomy, and relatedness, trying to promote adaptive consequences in a physical activity program.

Specifically, the first objective of the present study was to provide in-depth insight into the 'bright' (satisfaction) and 'dark' (frustration) sides of the need for novelty. A second objective was to explore whether novelty need satisfaction was an important determinant of adaptive outcomes and wellness in the physical activity program, even though other needs had been satisfied. Then, novelty would not operate only when other basic psychological needs are frustrated.

## METHOD

### *Participants*

Participants were ten people with morbid obesity (nine women and one man), aged between 31 and 59 years ( $M = 45.90$ ,  $SD = 9.25$ ), who had previously undergone bariatric surgery. Participants' socioeconomic status was established according to the information they reported about their income, education and occupation in a qualitative interview. Four participants were of low socioeconomic status, five of middle socioeconomic status, and one of high socioeconomic status. Concerning origin, nine participants were Caucasian and one was South American.

### *Procedure and Data Collection*

This research was approved by the ethical board of Miguel Hernández University of Elche. Participants were informed about the research procedure and provided written consent. Then, they were enrolled in a 6-month motivational physical activity program one month after bariatric surgery. The physical activity program consisted of two sessions per week during the first two months, three sessions per week during the intermediate two months, and four sessions per week during the last two months, each lasting 1 hour and 30 minutes. This program mainly included sessions with machines for the development of cardiorespiratory endurance and muscular strength in a fitness gym.

The instructors were sport science professionals with a Master's degree in physical activity and health, who were trained in applying self-determination theory-based need supportive strategies during the sessions. The strategies

included giving personal feedback about improvements in physical fitness, providing knowledge for participants to be autonomous exercisers, caring about participants' opinions and preferences, showing a democratic and positive disposition, giving social support and affection, fostering communication between participants that were in the same situation (post-bariatric surgery), and talking about intimate thoughts or experiences. These strategies were effective to foster satisfaction of the three basic psychological needs, autonomous motivation, and positive consequences (e.g., enjoyment, physical activity involvement, body image improvements, happiness, self-confidence) (see González-Cutre, Megías, Beltrán-Carrillo, Cervelló, & Spray, 2018 for full details).

In addition, the intervention included need for novelty-support strategies mainly focused in the presentation of novel activities. Instructors were told to include one session of novel activities in the first month, two sessions of novel activities in the second month, and one session per week in the following months of the program (19 novel sessions in total, called "special" sessions). Novel sessions had the objective to break the habitual training routine in the gym in order to promote novelty need satisfaction. The contents were selected taking into account the participants' previous knowledge and experiences to ensure surprise and novelty. Sessions included games, directed activities (e.g., aerobic, indoor cycling, aquagym), dance, body expression, exercises with quotidian materials (e.g., full bottles to improve strength), core-training, physical activities on the beach, and mountain trekking.

After the physical activity program, semi-structured interviews were conducted and recorded with each participant. The purpose of these interviews was to collect information about the role that novelty played in participants' life and in the physical activity program. In order to enhance the trustworthiness of this study, the interviewer encouraged participants to be frank and showed a learning (instead of a judging) attitude to ensure frank opinions (Shenton, 2004). An example of questions guiding the interviews is provided in Table 1. The interviews lasted between 40 and 60 minutes and took place in a quiet room at the first author's research center. As the study was focused on personal and private information, the participants' anonymity was protected through the use of pseudonyms.

TABLE 1  
*Example of questions guiding the interviews.*

---

*Questions concerning life*

Do you think that routine is important in your life?

Do you think that novelty and changes are important in your life?

*Questions concerning the physical activity program*

What do you think about the special sessions?

What do you think about the sessions at gym?

Did you like that the program included new things or the frequent changes were a problem?

Did the program provide enough information and knowledge to maintain healthy habits outside the program (diet and exercise)? Or do you think the provided information was not enough?

---

*Data Analysis*

The interviews were initially transcribed and subsequently analyzed with the support of the software NVivo, which was used to organize and store the data efficiently (Bazeley & Jackson, 2013). The qualitative data of this study were analyzed following a “thematic analysis” (Braun & Clarke, 2006). First, all the transcriptions were read to become familiar with the data and get a sense of the whole. Second, any data extracts which represented interesting information related to novelty was coded using an inductive approach. The coded extracts were based on the data instead of being “theory-driven”. Third, the same inductive approach was used to identify two main themes from the coded data (“novelty in life” and “novelty in the physical activity program”) with their corresponding sub-themes (see Table 2). This set of themes determined the structure of results showed in the next section. During the write-up of the report, understood as an important part of thematic analysis, the theoretical framework of this article was used to interpret, theorize, discuss and give meaning to the data.

TABLE 2  
Themes and sub-themes identified in the data analysis.

---

<i>The need for novelty in life</i>
Importance of novelty to avoid routine
Novelty is important in mundane aspects of life (e.g., changing furniture)
Importance of alternating familiar and new experiences
Novelty is related to learning, enjoyment, and happiness
Routine is related to boredom, withdrawal from daily life activities, depression, and eating disorders
<i>The need for novelty in the physical activity program</i>
Importance of novelty in the program to avoid boredom
Participants think that sessions in the gym are quite boring and monotonous
Participants prefer special sessions which include new activities
The novel activities of the special sessions foster participants' curiosity, enthusiasm, and adherence to the program
Novelty is associated with learning and knowledge acquisition

---

The process of data analysis, led by one author of this article, was supervised by the rest of coauthors, who played the role of “critical friends” (Smith & McGannon, 2018). During a series of three meetings, the leader of the analysis presented the data analysis using diagrams, outlined the different themes, sub-themes and codes, and responded to the questions and suggestions of the critical friends, which were useful to review and improve in group the thematic analysis. The involvement of “critical friends” during the process of data analysis encouraged the rigor of the data coding and theme identification, and improved the trustworthiness of data analysis.

## RESULTS AND DISCUSSION

### *The Need for Novelty in Life*

Participants perceived novelty as a necessary element that has to be present in life. All of them agreed on the importance of looking for new stimuli in life to avoid falling into the daily routine. For example, Lezly stated: “I believe novelty is important in everyone’s life. Life cannot be routine”. This need would be present even in the most mundane aspects of daily life (Sansone, Weir, Harpster, & Morgan, 1992):

Pam: I don’t know how many times I’ve changed my furniture. The first time I bought the furniture was when I got married, and two years later I didn’t want that furniture anymore. I’m changing furniture time and time again. I enter my house, three years later, and I say “this is the same”. And I get rid of everything, and I paint, change this, put the sofa here and there... I’m always changing.

However, it is not a matter of constantly introducing novelty in life, but it is preferable a balance between novelty and some daily routines that are necessary or that are made placidly. As Alice pointed out, it is a matter of

“including new activities into the daily routine”. People would need to alternate familiar and new experiences (perceived variety, Sylvester, Jackson, & Beauchamp, 2018; Sylvester et al., 2014) in an optimal challenge to achieve positive psychological states (Csikszentmihalyi, 1990; González-Cutre & Sicilia, 2019). This would be the way to maintain a balance between satisfactions of need for novelty and need for competence.

According to participants’ comments, novelty satisfaction is associated with several positive outcomes and well-being indicators such as learning, enjoyment or happiness:

Alice: I think so, because if you get used to a routine, you don’t get out of that routine, it’s always “the same old story”. But including new things makes you learn, makes you see things that you say “well, I wouldn’t have done this on my own”. I don’t know... it makes you to have a good time. It’s enjoyable.

Lucy: Yes, because you live with happiness. What will happen now, what will be done, what we will do, what they will say, what they will invent... I like that... surprise.

On the other hand, novelty frustration seems to be related to ill-being and more impoverished functioning. Participants described how the routine provoked boredom, withdrawal from daily life activities, depression, or binge eating disorders associated with their obesity:

Lezly: I think the routine is not good at all, because it brings boredom and lack of interest.

Susan: Yes, it [novelty] is important, because if you always do the same, at the end you get bored and leave it. If you eat lentils every day, you abhor them. Well, this is the same.

Lucy: I’ve fallen many times [in the routine] and I don’t like it, because then I think too much about some things. I don’t like it [routine] because all this has caused me depression.

Ronda: There comes a time when routine takes control and plunges you.

Emily: I’m very home-loving. And this is maybe the routine that I have. I relate my house with doing my things, the sofa, and watching television. And, that’s why I’ve told you to fall into the routine is maybe bad for me. Because, for me, to fall into the routine is couch, not going out, television, eating. Now I eat a few sunflower seeds, now I open a [food] bag, now I eat a cookie... And I’m afraid to fall into the routine, because my routine is that.

Therefore, it seems that the need for novelty has a ‘bright’ and a ‘dark side’, as the three basic psychological needs. Its satisfaction would be associated with psychological integrity, health, and well-being, while its frustration would be associated with maladaptive outcomes. These results are in line with Ryan and Deci’s (2017) inclusion criteria.



*The Need for Novelty in the Physical Activity Program*

Participants highlighted that the presence of novel activities in the physical activity program was a key element for its success, because only a traditional intervention with machines for endurance and strength training would have been boring for them:

Susan: Yes, novelty is very important. Because every day the same things, machines, machines... from Monday to Thursday... at the end you detest it.

Lucy: In the gym, you have little novelty because you have machines. One day you take a machine, other day you take other machine...little novelty. In the special sessions, yes... the novelty is always beautiful.

Sofie: If I play games, I like it, if I do aerobic, I like it, because I've never done this...Everything is new for me because I've never gone to swim, I haven't gone dancing since 40 years ago... I like the special sessions more than the gym, we work with more pleasure. We sweat more in the gym, but it's more boring.

The inclusion of novel activities seemed to arouse participants' curiosity and increase their enjoyment and desire to attend to the physical activity program, according to their comments:

Alice: New things always stand out.

Susan: We are waiting the day of the special session to arrive to do the corresponding activity, whatever it is.

Andrew: We come to the program in a different way. Simply the curiosity of seeing what we are going to play today matters. We come with enthusiasm... to see what we will play today, what you are going to propose us.

Pam: The special sessions have all been very nice! Very nice!

This desire to attend to the special sessions were even expressed by participants who had been less time in the program, and who could not attend to these sessions because it was not established in their programming yet:

Telma: I remember when I started [the program] that everyone came to the special classes except me, because I didn't have to attend yet. I said Jose [the instructor]: "Jose, let me go although it isn't my turn"... I even wanted to come. And he told me "no, you have to wait". And at the end, luckily, I could go.

We can see through the participants' comments that need for novelty-support strategies, focused in the presence of novel activities, were related to positive consequences. However, an intervention only focused in the gym routine would be associated with boredom and malfunctioning. These results are according to self-determination theory postulates showing the 'bright' and 'dark' sides of the need for novelty in an exercise context. Results also showed that, although participants stated that the three basic psychological needs (autonomy, competence, and relatedness) were satisfied during the intervention (see González-Cutre et al., 2018), novelty satisfaction (through the

special sessions) was also important for growth and well-being. Therefore, novelty would not be a need that is only salient when the basic psychological needs are frustrated, consistent with Ryan and Deci's (2017) inclusion criteria.

Finally, we can highlight that, although the strategy of providing knowledge for participants to be autonomous exercisers was initially designed to foster the needs for autonomy and competence, participants also interpreted it as a source of novelty:

Lucy: You have provided me with a lot of novelty. Novelty, information... Well, you have given me everything! You talked to me even about the training shoes! Also about water [hydration]... You have spoken to me about everything.

This result is consistent with the study of González-Cutre and Sicilia (2019), which found that novelty need satisfaction was the strongest predictor of intrinsic motivation to know in a physical education context. It is possible that besides autonomy and competence, novelty need satisfaction could be an antecedent of intrinsic motivation to know, which lead people to engage in the activities for the pleasure of learning and understanding.

This qualitative study provided in-depth data on the need for novelty and supported costs and benefits from novelty deprivation to satisfaction, suggesting that this candidate need could be a construct that mediates relations between social factors, motivation and consequences, as the three basic psychological needs.

#### CONCLUSIONS

Results suggested that satisfaction of the need for novelty was not only related to adaptive outcomes and optimal functioning, but also its frustration was related to maladaptive outcomes and suboptimal functioning ('dark side'). Participants stated that novelty in life could make things enjoyable and surprising, and that it would be related to happiness. However, they also associated the lack of novelty in life with low interest, boredom, and abandonment of daily life activities. Moreover, routine was perceived to be worse in the long term, giving rise to depression or eating disorders, if the need for novelty is continuously frustrated.

Furthermore, the present study showed that novelty was an important element to sustain participants' motivation and to promote positive outcomes in the physical activity intervention program, even though participants' basic psychological needs were satisfied (González-Cutre et al., 2018). These results are consistent with Ryan and Deci's (2017) inclusion criterion: the need for novelty should operate when other growth-related needs are supported. These results have also implications for practice, suggesting the application of novelty need-supportive strategies as a way to improve the quality of motivation and

well-being of people, not only in a health context, but also in other settings (e.g., education, work).

Finally, it is important to remark that the small sample of this study represents a limitation and results should be therefore interpreted with caution. Moreover, a longitudinal process of data collection during the physical activity program, in parallel to the data analysis process, would have allowed researchers to collect more detailed information related to the aim of the study and ensure data saturation. This would have been possible by including an observer in the physical activity program in charge of taking notes of any event or conversation related to the aim of the study.

#### REFERENCES

- Bagheri, L., & Milyavskaya, M. (2019). Novelty–variety as a candidate basic psychological need: New evidence across three studies. *Motivation and Emotion*. Advance online publication. doi:10.1007/s11031-019-09807-4
- Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo*. London: Sage.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101. doi:10.1191/1478088706qp063oa
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- González-Cutre, D., Megías, A., Beltrán-Carrillo, V. J., Cervelló, E., & Spray, C. M. (2018). Effects of a physical activity program on post-bariatric patients: A qualitative study from a self-determination theory perspective. *Journal of Health Psychology*. Advance online publication. doi:10.1177/1359105318770729
- González-Cutre, D., Romero-Elías, M., Jiménez-Loaisa, A., Beltrán-Carrillo, V. J., & Hagger, M. S. (2019). Testing the need for novelty as a candidate need in basic psychological needs theory. *Motivation and Emotion*. Advance online publication. doi:10.1007/s11031-019-09812-7
- González-Cutre, D., & Sicilia, A. (2019). The importance of novelty satisfaction for multiple positive outcomes in physical education. *European Physical Education Review, 25*, 859-875. doi:10.1177/1356336X18783980
- González-Cutre, D., Sicilia, A., Sierra, A. C., Ferriz, R., & Hagger, M. S. (2016). Understanding the need for novelty from the perspective of self-determination theory. *Personality and Individual Differences, 102*, 159-169. doi:10.1016/j.paid.2016.06.036
- Hancox, J. E., Quested E., Ntoumanis, N., & Thøgersen-Ntoumani, C. (2018). Putting self-determination theory into practice: application of adaptive motivational principles in the exercise domain. *Qualitative Research in Sport, Exercise and Health, 10*, 75-91. doi:10.1080/2159676X.2017.1354059

- Ng, J. Y. Y., Ntoumanis, N., Thøgersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-determination theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science, 7*, 325-340. doi:10.1177/1745691612447309
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.
- Sansone, C., Weir, C., Harpster, L., & Morgan, C. (1992). Once a boring task always a boring task? Interest as a self-regulatory mechanism. *Journal of Personality and Social Psychology, 63*, 379-390. doi:10.1037/0022-3514.63.3.379
- Sebire, S. J., Toumpakari, Z., Turner, K. M., Cooper, A. R., Page, A. S., Malpass, A., & Andrews, R. C. (2018). "I've made this my lifestyle now": a prospective qualitative study of motivation for lifestyle change among people with newly diagnosed type two diabetes mellitus. *BMC Public Health, 18*, 204. doi:10.1186/s12889-018-5114-5
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*, 63-75. doi:10.3233/EFI-2004-22201
- Smith, B., & McGannon, K. R. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology, 11*, 101-121. doi:10.1080/1750984X.2017.1317357
- Sylvester, B. D., Jackson, B., & Beauchamp, M. R. (2018). The effects of variety and novelty on physical activity and healthy nutritional behaviors. In A. J. Elliot (Ed.), *Advances on motivation science* (Vol. 5, pp. 169-202). San Diego, CA: Academic Press. doi:10.1016/bs.adms.2017.11.001
- Sylvester, B. D., Standage, M., Dowd, A. J., Martin, L. J., Sweet, S. N., & Beauchamp, M. R. (2014). Perceived variety, psychological needs satisfaction and exercise-related well-being. *Psychology & Health, 29*, 1044-1061. doi:10.1080/08870446.2014.907900
- Trigueros, R., Aguilar-Parra, J. M., López-Liria, R., & Rocamora, P. (2019). The dark side of the self-determination theory and its influence on the emotional and cognitive processes of students in physical education. *International Journal of Environmental Research and Public Health, 16*, 4444. doi:10.3390/ijerph16224444