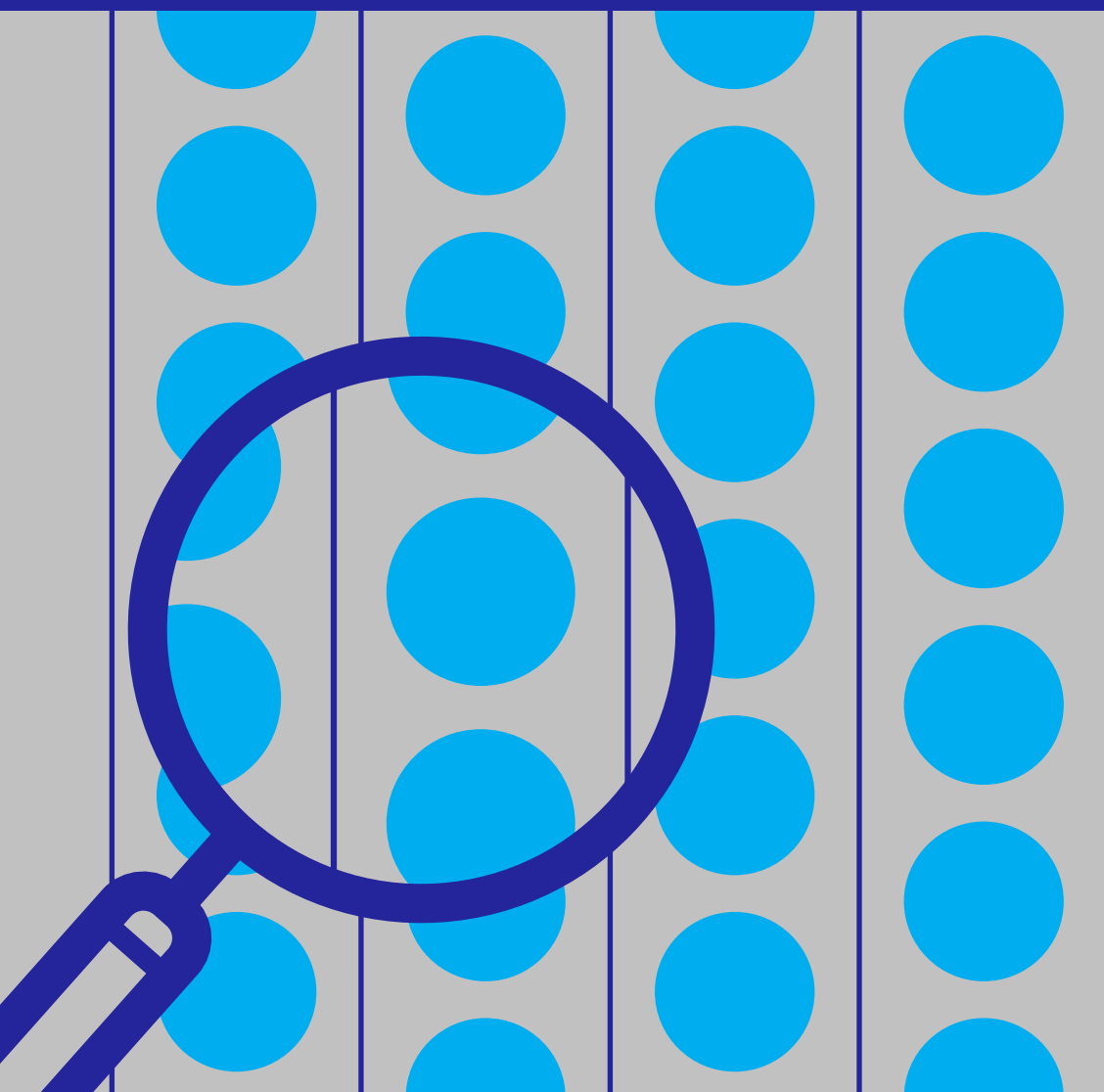


The ideal research grant

A survey of what types of grant researchers prefer and how they perceive their opportunities for obtaining funding for their research



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This document presents a summary in English of a survey of Danish researchers' ideal research grants. The original report, which was published in June 2018, is available in a full-length Danish version at www.thinktanddea.org/publications/the-ideal-research-grant

The survey was carried out as a collaboration between The Think Tank DEA, the Independent Research Fund Denmark, and The Young Academy under the Royal Danish Academy of Sciences and Letters. All parties financed their own use of time in connection with the collaboration.

Authors:

Jeppe Wohlert, Senior Consultant, The Think Tank DEA

Maria Theresa Norn, Head of Analysis, The Think Tank DEA

Vibeke Grønvall Kristensen, Head of Unit, Secretariat for the
Independent Research Fund Denmark

Katrine Bisgaard, fuldmægtig, Head of Section, Secretariat for the
Independent Research Fund Denmark

Henrik Dimke, Associate Professor, Department of Molecular
Medicine, University of Southern Denmark, and member of The
Young Academy

Nikolaj Zinner, Associate Professor, Department of Physics and
Astronomy, Aarhus University, and member of The Young Academy

Published by: The Think Tank DEA, the Independent Research Fund
Denmark and The Young Academy

Date of publication: June 2018

Design: Spine Studio

Summary

A substantial proportion of funding for Danish research is awarded in open competition among researchers, who apply for grants from public and private funds in order to pursue their research aims. The demand for these competitive funds has increased in line with the growing demand by researchers to attract external funding for their research. At the same time, the number of researchers has increased, and the amount of public competitive funding has decreased. As a result, the success rate for applications for research grants has reached a historic low (DEA 2017).

Competitive research grants are aimed at both promoting diversity in Danish research and enabling researchers to maintain and expand promising research agendas and environments. They are meant to support both the “growth layer” of young researchers seeking to establish an independent research career and the more established senior researchers, who contribute to the definition of the international research frontier.

This underlines the importance of continuously discussing how we can ensure the best possible use of competitive research funding. However, the debate has a tendency to focus on the supply of research funding.

This survey seeks to shed light on researchers’ own demand for research funding and to provide an important additional perspective on the discussion of ideal types and sizes of grant.

In 2017, The Think Tank DEA, The Independent Research Fund Denmark (DFF), and The Young Academy set out to investigate what types of grant researchers would prefer. A survey questionnaire was sent to 923 researchers, who had received at least one grant from DFF during the period of 2010 to 2014. Almost half of them – 455 researchers – participated in the survey, in which they were asked a number of questions about their ‘ideal next grant’, that is what type of grant they believed to be necessary to fund the project that would enable them to take their research or their research career to the next level. Respondents were also asked to indicate the minimum number of years their ideal grant should provide funding for, as well as the desired number and types of staff they would like to connect to the project. Information was also collected on respondents’ prior funding achievements (i.e. the size and source of their latest and largest research grants) and, for principal investigators, the current size and staff composition of their research groups.

In addition, respondents were asked to assess their own chances of obtaining their ideal grant within the next two years, as well as their general perception of the possibilities for obtaining research funding through the existing Danish research funding system.

It should be noted that the results of the survey may be influenced by the fact that the respondents are researchers who have applied for and successfully obtained funding from DFF. In addition, compared with the total population of researchers at Danish universities, the group of survey respondents have an underrepresentation of researchers from the technical sciences.

There is an overrepresentation of natural scientists, an underrepresentation of postdocs and an overrepresentation of professors among the respondents.

What is the ideal size of a research grant, according to researchers?

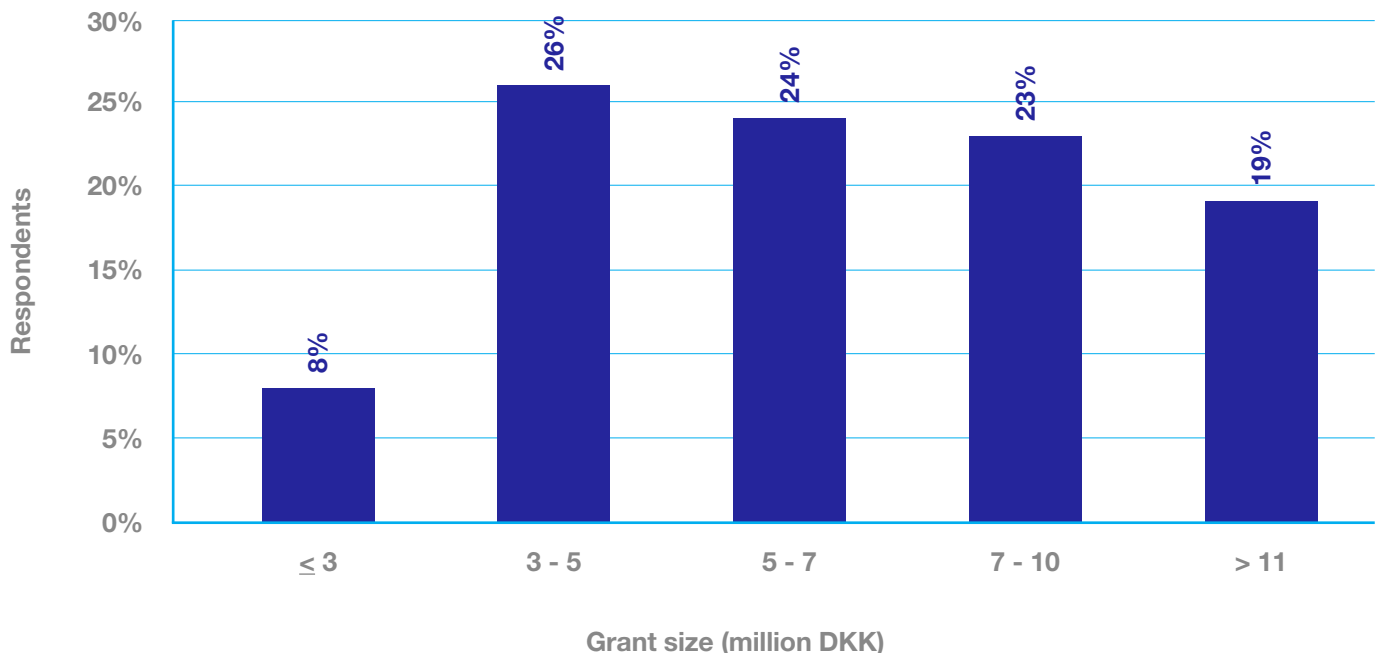
What do researchers perceive as a suitably sized grant for them to be able to pursue their research and career aims? For three out of four respondents, the size of their ideal grant was between 3 and 10 million DKK (cf. Figure 1). More specifically, 26 percent would like a grant of 3-5 million DKK, 24 percent preferred a grant of 5-7 million DKK, and 23 percent a grant of 7-10 million DKK.

FIGURE 1

Respondents distributed according to the size of their ideal next grant

N(≤ 3m)=36; N(3-5m)=117; N(5-7m)=109; N(7-10m)=103; N(> 11m)=86. The following categories each with fewer than five observations are lumped together into the category "> 11m" for the sake of anonymity: "11-20m DKK", "20-50mDKK", and "> 50m DKK".

Source: The Think Tank DEA, The Independent Research Fund Denmark, and The Young Academy of The Royal Danish Academy of Sciences and Letters (2017).



The fact that three quarters of the respondents would like a grant of between 3 and 10 million DKK – which in most research fields would count as a small- or medium-sized grant – is interesting in the light of the tendency, both in Denmark and internationally, towards increasing average grant sizes.

Of the respondents, 90 percent indicated a minimum length of 3-5 years for the project that their ideal grant would finance, and two thirds of the respondents would connect between 3-8 people to their project (cf. Figure 2).

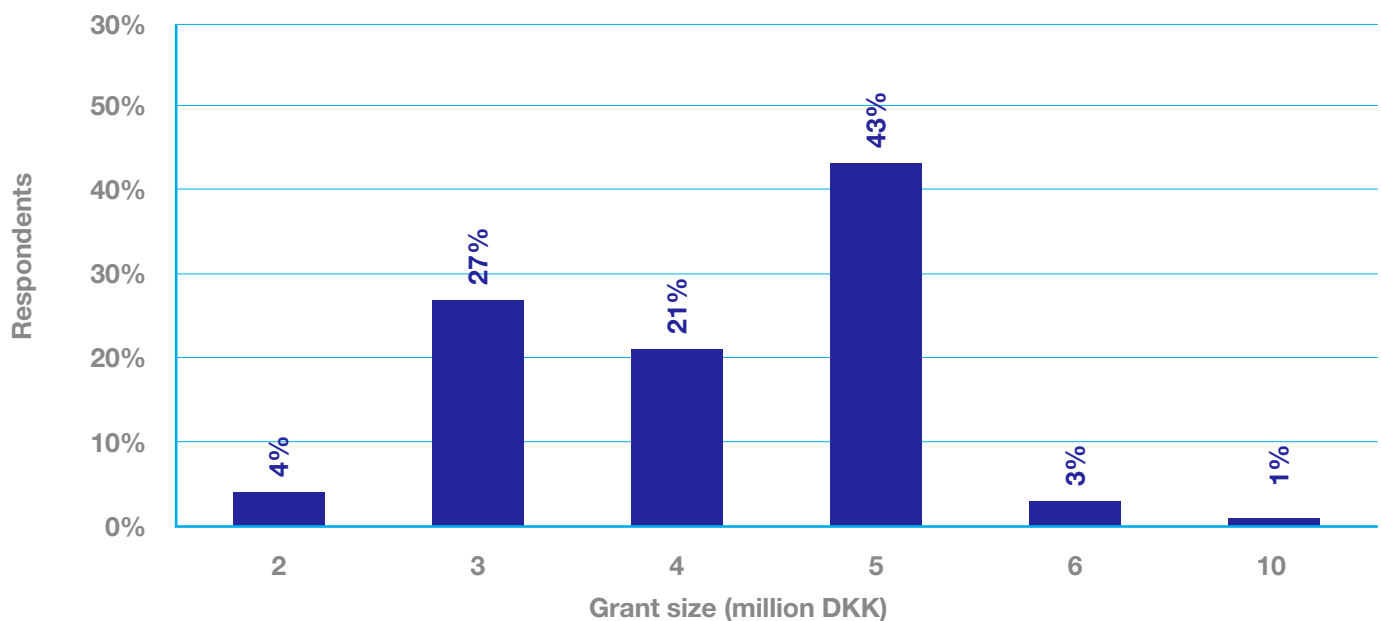
The desired size of the ideal grant was largely consistent across the respondents. No significant differences could be attributed to scientific field, academic position, or gender.

FIGURE 2

Respondents distributed according to their assesment of the minimum duration of the project necessary to realize the project goals

N(2 years)=19; N(3 years)=121; N(4 years)=95; N(5 years)=194; 6(years)=12; N(10 years)=5 Categories with fewer than five observations are not included in the graph for the sake of anonymity.

Source: The Think Tank DEA, The Independent Research Fund Denmark, and The Young Academy of The Royal Danish Academy of Sciences and Letters (2017).



How do the researchers assess their chances of attracting their ideal grant?

A third of the respondents are skeptical of their chances of obtaining their ideal grant. More specifically, 34 percent of the respondents think it is 'not very likely' or 'not at all likely' that they could obtain their ideal grant within the next two years, while 66 percent of the respondents think it is 'very likely' or 'somewhat likely' that they will obtain their ideal grant within a two-year period (cf. Figure 3).

The more pessimistic researchers were given the chance to elaborate upon the reasons for their skepticism. Among the most commonly mentioned reasons was a general acknowledgement of the increased competition for external research funding and the correspondingly low success rates.

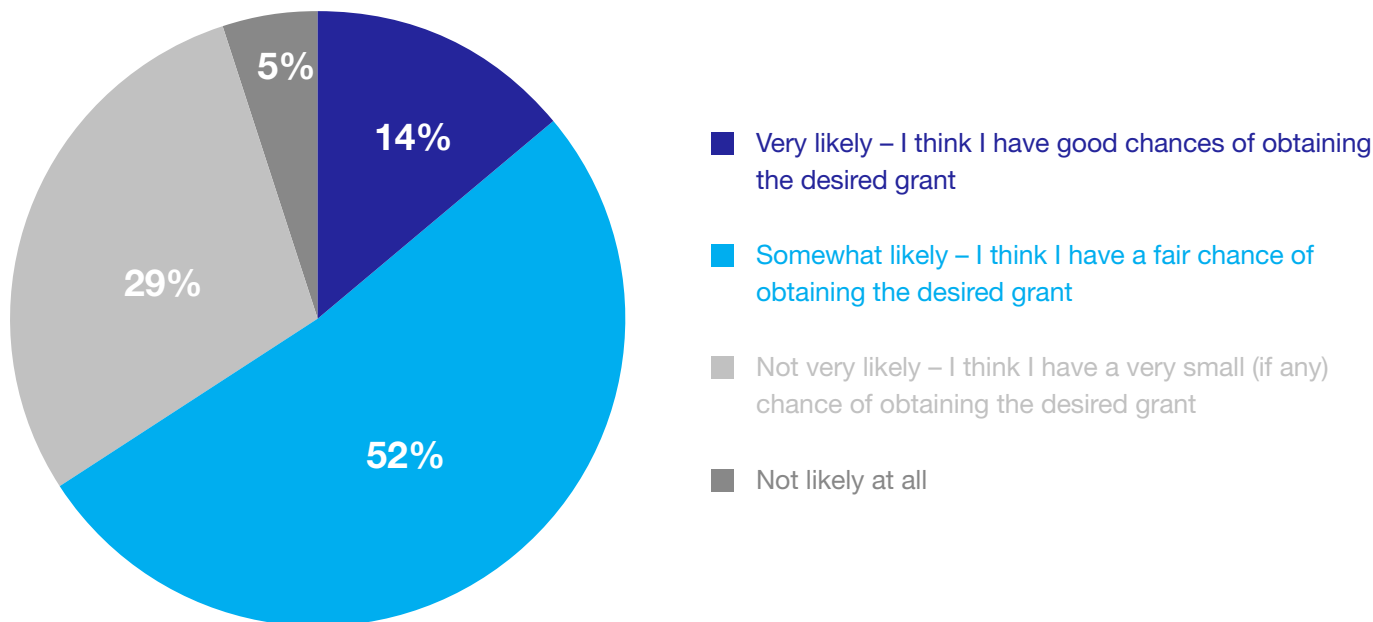
Some of the more skeptical respondents indicated an impression that funding is more readily available in the form of large grants for larger research projects and research centers, while it is more difficult to find small- and medium-sized grants.

FIGURE 3

Respondents distributed according their assesment of the likelihood of obtaining their ideal next research grant within the next two years

N(very likely)=66; N(somewhat likely)=235; N(not very likely)=132; N(not likely at all)=22.

Source: The Think Tank DEA, The Independent Research Fund Denmark, and The Young Academy of The Royal Danish Academy of Sciences and Letters (2017).



Some researchers were skeptical because they believed their research track record to be insufficient to compete effectively for funding, for instance due to recent failures in research projects, gaps in their publications list due to parental leave or a transition to a new scientific field, or because they lack experience as a principal investigator.

Younger researchers were generally more skeptical of their own chances of obtaining their ideal grant than established ones. However, no significant differences were found in the level of skepticism that could be attributed to respondents' gender or research field.

What would the researchers like to do with their ideal grant?

Four fifths of the researchers in the survey would like to be able to conduct further research within an area they are already working with to yield new/deeper insight into established research fields or questions (cf. Figure 4).

Two thirds of the researchers would like to pursue new research fields or research questions that they currently have insufficient funding to venture into. Half of the respondents (51 percent) would also like to pursue existing research paths within the same project.

Two thirds of the researchers would spend their ideal grant to develop or extend collaborations with leading researchers or research environments abroad. The fourth most cited purpose, stated by more than half of the respondents, was to maintain or expand an existing research group, e.g. in order to retain specialized competences built within that group. This aim was particularly common among respondents employed at the associate or full professor level.

Supplementary comments from the respondents indicate a general experience that there is a greater chance of obtaining support for new ideas and activities than for obtaining funds for maintaining and extending existing research paths and groups. This points to the need for a discussion of whether the current research funding

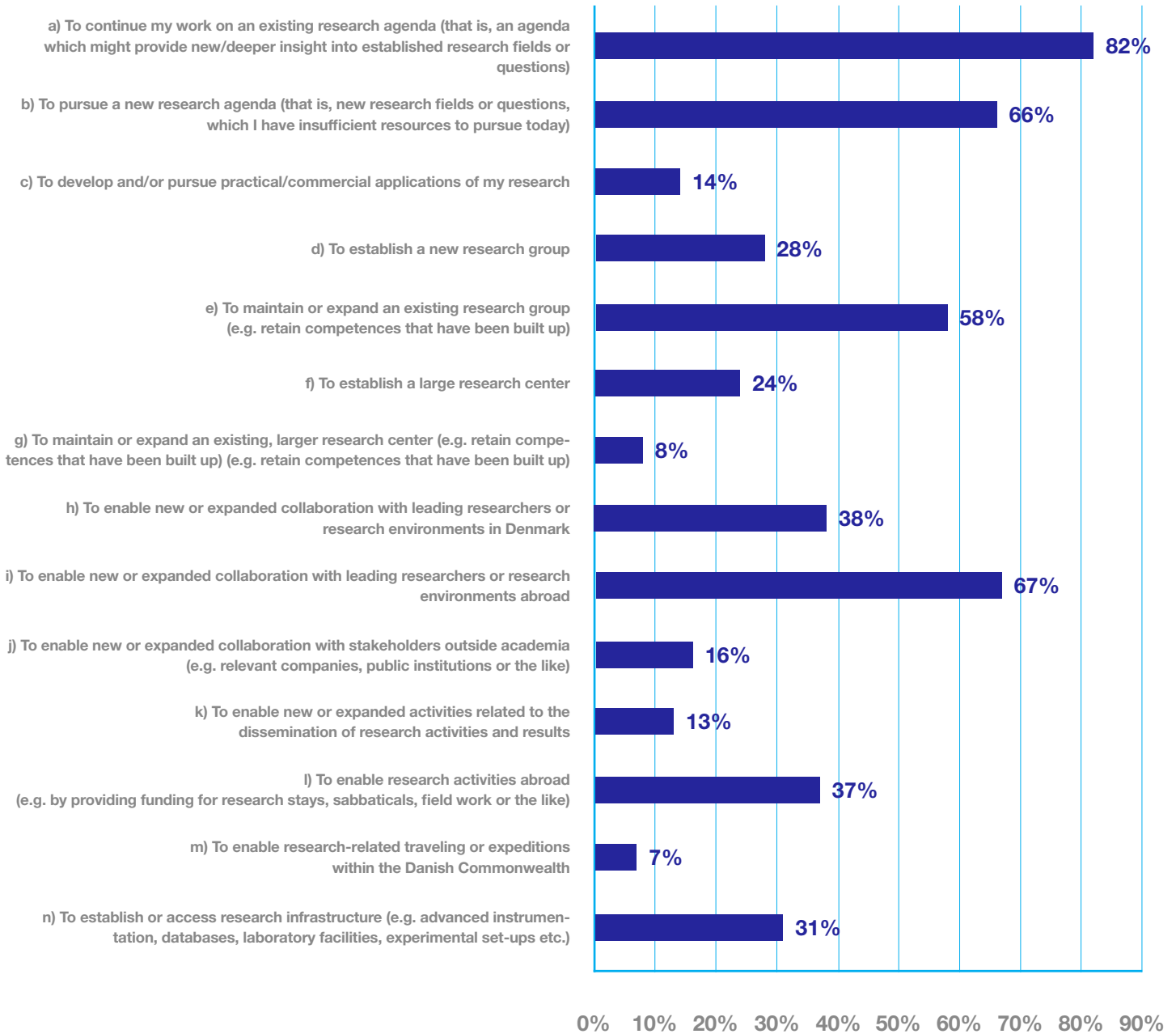
system is adequate with a view to enabling researchers to both pursue new paths and ensure continuity and cumulative, deeper insight into existing research areas. This brings us to the next question, namely how the researchers view the possibilities offered by the existing research funding system in general, and not specifically in relation to their own funding needs.

FIGURE 4

Respondents distributed according to the purpose of funding for their ideal next research grant

N(a)= 371; N(b)= 299; N(c)= 63; N(d)= 126; N(e)= 264; N(f)= 109; N(g)= 37; N(h)= 171; N(i)= 306; N(j)= 71; N(k)= 60; N(l)=168; N(m)= 30; N(n)= 142

Source: The Think Tank DEA, The Independent Research Fund Denmark, and The Young Academy of The Royal Danish Academy of Sciences and Letters (2017).



How do researchers perceive the overall research funding system?

Survey respondents were also asked to share their perceptions of the current research funding system in Denmark. More precisely, they were asked to indicate their level of agreement with a series of statements about possibilities for obtaining research funding. As such, this part of the survey focused not on the respondents' own aims and aspirations, but rather on their general experience of the research funding system.

Of the respondents, 43 percent disagreed with the statement that there are relevant and good funding options in Denmark for applying for grants of 5-10 million DKK (cf. Figure 5). By comparison, 34 and 29 percent disagree with the statements that there are good options for pursuing grants of more than 10 million DKK and between 2 and 5 million DKK, respectively. This indicates that there might be a particular need to assess the possibilities for obtaining grants in the size order of between 5 and 10 million DKK, particularly in light of the abovementioned point that the respondents' ideal grant is between 3 and 10 million DKK.

In recent years there has been a substantial debate in Denmark and abroad as to how we ensure good conditions for researchers at all phases of an academic career in general and particularly for younger researchers who are looking to establish their first research group. However, 35 percent of the respondents disagreed with the statement that there are good and relevant opportunities for ensuring funding for establishing a research group in Denmark today. Moreover, 46 percent of the respondents disagreed that there are good opportunities for maintaining or expanding an already established research group. This indicates a need for continued debate regarding the conditions for both establishing and maintaining research groups, especially as established research groups can be very vulnerable to changes in or discontinued funding.

On a related note, 44 percent of the respondents disagreed with the statement that good and relevant funding options are available for researchers seeking to follow up on prior or existing projects with promising unexplored paths or unutilized data.

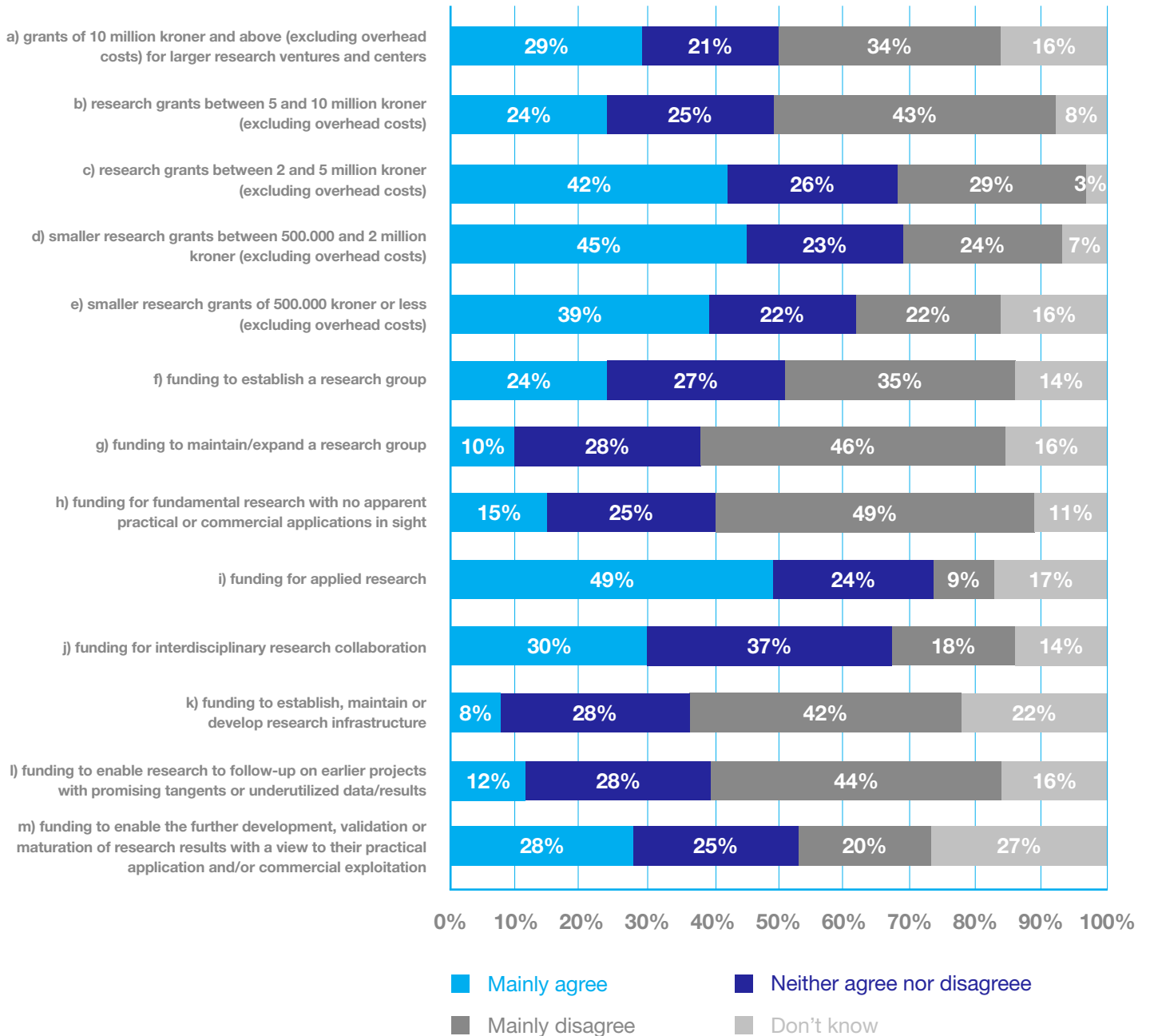
Last, but not least, it is worth noting that 49 percent of the respondents do not believe there are good and sufficient research funding instruments available for researchers looking to undertake basic research with no immediate practical or commercial applications. By comparison, only 9 percent disagree that there are suitable instruments for funding applied research, while 49 percent think that there are good instruments for this purpose. These findings raise the question of whether the current funding system is well-suited to support the whole 'value chain' of research, from basic research to applied research and development.

FIGURE 5

Respondents distributed according to the degree to which they believe there are relevant and good research funding instruments in Denmark if you are applying for:

N(a)= 438; N(b)=438; N(c)=440; N(d)=433; N(e)=437; N(f)=438; N(g)=437; N(h)= 437; N(i)=433; N(j)=435; N(k)=436; N(l)=437; N(m)=435

Source: The Think Tank DEA, The Independent Research Fund Denmark, and The Young Academy of The Royal Danish Academy of Sciences and Letters (2017).





The Think Tank DEA
Fiolstræde 44 / DK-1171 Copenhagen K
Tel +45 3342 6600 / dea@dea.nu / www.dea.nu



Independent Research Fund Denmark
Danish Agency for Science and Higher Education
Asylgade 7 / 5000 Odense C
Tel +45 3544 6200 / DFFsekretariatet@ufm.dk



The Young Academy
The Royal Danish Academy of Sciences and Letters
H.C. Andersens Boulevard 35 / 1553 København V
Tel +45 3343 5300 / youngacademy@youngacademy.dk
