

INVITED EDITORIAL

Recommendations to Improve Body Image Research in an Increasingly Globalised World

Introduction

Research on body image has experienced dramatic growth in the past 60 years and an important facet of this work has been the emergence of sub-disciplinary work conducted with different social identity groups (Andersen-Fye, 2011; Cash, 2004; 2012; Swami, 2017a). Despite these advances, our experience as reviewers for a range of journals suggests that research conducted in, and publications emanating from, developing countries sometimes lack the rigour and empiricism that would enhance our understanding of body image in diverse cultural groups. In this article, we detail some of the common issues that we have come across and that we believe are hampering basic and applied research on body image. The list below is not exhaustive, but we hope it will help to stimulate more rigorous planning of research on body image – and indeed psychological research in general – in an increasingly globalised world.

1. Good research begins with a good research question

This may seem like an obvious point, but good research must begin with a good research question. Yet, all too frequently, we are asked to review publications that do not present a clear research question or, more often, that put forward research questions that lack ‘interestingness’ for the scientific community. Of course, there is an element of subjectivity to interestingness; after all, what is interesting to one scholar may not be interesting to another. Nevertheless, to be interesting to the wider scientific community, a research question should contribute something new or clearly fill a gap in the scientific literature (i.e., there should be a possibility that the answer to the question will be something that was not known previously) and/or has useful practical implications for practitioners or wider society.

Inspiration for good research questions can come from informal observations of the world around us or practical problems we experience. For example, you might like spending time in nature and notice that you feel more positive about your body image after nature exposure; a reasonable research question to ask in this case would be whether exposure to nature is associated with a more positive body image. This is an example of how an informal observation or a personal experience might inspire research ideas. Assuming that the question has not already been answered by the scientific community, the most straightforward way of turning such observations into research is to formulate a question about a statistical relationship between one variable (e.g., nature exposure) and some other variable (e.g., positive body image). Considering some possible causes of the association (see Section 2), whether all social identity or cultural groups will exhibit the same association, or what types of situations might elicit the association are all useful things to consider at this stage of the research design.

As should be clear, conducting a thorough literature review is the only way to determine whether a research question has already been studied scientifically. Too often, however, scholars pose research questions that lack interestingness because they have not conducted a thorough review of the literature or have neglected literature from diverse cultural contexts. Conducting a thorough review of the literature early in the research process is, therefore, vital in order to determine whether a research question has already been answered and to help you evaluate the interestingness of a research question. Indeed, you will probably find that, more often than not, an interesting research question has already been examined by other researchers. For instance, to return to the example of nature exposure and body image above, a thorough review of the literature should uncover several studies that have been conducted on the topic (e.g., Swami, von Nordheim & Barron, 2017; Swami, Barron, Weis & Furnham, 2016).

However, just because a research question has been examined before does not necessarily mean it is not worth interrogating further. The key is to identify ways in which a research question could be refined and/or extended so as to make a novel and meaningful contribution to the research literature. One strategy that we have found useful in helping us refine previously-answered research questions is to read the discussion section in a recent article on a given topic. The discussion section usually highlights limitations of a study and provides directions for future research; the latter, in particular, can be used to help you formulate new research questions. In addition to helping you refine a research question, familiarising yourself with the available literature is also important as it can provide you with ideas on how to conduct your study and to analyse your data.

One example of how a research question can be refined and extended is provided in a study by Jackson, Jiang & Chen (2016). These authors began by noting that studies conducted in Western nations typically document significant associations between mass media exposure and the incidence of body image disturbances. However, they also noted that few studies have examined similar associations in non-Western countries. They, therefore, asked whether the association between media exposure and body image disturbance would be statistically significant in China. Moreover, they also distinguished between exposure to Western and local (i.e., Chinese) media influences. This study provides an example of how a previously-studied research question can be extended merely by asking the same question in a new cultural context; more than this, Jackson *et al.* (2016) refined previous work by operationalising media exposure in terms of two different facets, namely exposure to Western and local media, thus increasing the interestingness of this research to body image scholars.

Interestingness to the scientific community is perhaps the most important consideration when developing new research questions, but you also need to take into account the feasibility of successfully answering research questions. Feasibility can be shaped by many factors, such as the time needed to conduct a piece of research, the ethics of conducting the research, funding and monetary considerations, technical and statistical knowledge, access to research participants (see Section 3), and the availability of appropriate measurement tools (see Section 4). When developing research questions, it is important to take these factors into account so as to ensure the successful completion of research projects. In our experience, it is almost always better to attempt to answer simpler, feasible research questions than to answer more complicated research questions that are not feasible. Getting the right balance can sometimes be tricky, but by paying close attention to the research question early, you are more likely to ensure making meaningful contributions to the literature.

2. Theory as a key ingredient of research

Along with developing a research question, constructing or choosing a theoretical framework is an integral part of the research process and requires early preparation. In our experience, body image researchers sometimes do not have sufficiently grounded knowledge of the phenomena of interest or about existing theories that come from a thorough review of the literature. The lack of a clear theoretical framework is problematic because researchers: (i) are unable to provide a coherent explanation or interpretation of the phenomena of interest; (ii) do not present clear theory-derived hypotheses, and; (iii) fail to consider alternative, plausible explanations of the phenomena of interest. In a similar vein, lack of clear understanding of theory frequently results in poor research designs in which scholars are not in fact able to effectively account for a phenomenon of interest or end up conducting basic (often purely descriptive) research that lacks interestingness.

An example that we have frequently encountered may serve to highlight these issues. In papers written by body image scholars from developing countries, there is often a tendency to discuss issues related to Westernisation (e.g., exposure to Western media as a cause for body dissatisfaction) without appropriate consideration of research-based implications. For instance, while Westernisation is often identified as a causal factor, researchers frequently neglect to operationalise “Westernisation” in their research designs. This means that, in reality, these researchers are unable to draw any meaningful conclusions vis-à-vis the theory; that is, there remains a conceptual gap between the theory itself and the conclusions a researcher is able to draw about that theory. Likewise, perhaps because researchers are often so focused on a singular theory, they neglect other relevant theoretical frameworks or fail to account for alternative explanations of their findings. In terms of body image research and Westernisation, this typically includes theories based on socio-economic status, modernisation, and gender equality (Swami, 2015).

Our advice to researchers is to incorporate theory into research at an early stage, using theory to understand relevant literature, generate research questions, think about effective study design and methodology, and write up findings. In this sense, theory should never be an after-thought in the research process, but should be a basic ingredient that is given due consideration at a very early stage. The most direct way to incorporate theory into research is to familiarise yourself with the existing literature and identify all existing theories of the phenomenon of interest. Where there are several plausible theories for the same phenomenon, it may be possible to derive a testable hypothesis from each theory; at the very least, for each research question you generate, you should ask what each theory would predict in relation to the answer to that question. A good study will identify one or more theories, derive hypotheses from one of those theories, test the hypotheses in a study, and finally re-evaluate the theory or theories in light of your findings.

A good example of the application of theory to drive forward knowledge about body image issues is provided by Guertin *et al.* (2017). These authors were interested in the topic of fat talk or everyday conversations between individuals that are characterised by negative comments regarding one’s weight or body shape. Guertin and colleagues noted that previous studies have identified some of the causes and consequences of fat talk, but also suggested that the processes through which engagement with fat talk impacts women’s eating behaviours has been paid little attention. To rectify this, the authors relied on self-determination theory, which postulates that humans are self-motivated and have natural propensities for growth, integration, and well-being. More specifically, they used self-determination theory to develop clear hypotheses related to engagement with fat talk. This study is a useful example of how the application of theory can help identify new research questions that can make meaningful contributions to knowledge.

3. Ensuring the appropriateness of a participant sample

One critical aspect of planning a study on body image is consideration of an appropriate participant sample. Too often, however, we see body image researchers paying far too little attention to their sample. In most studies, it is rarely practical or feasible to study an entire population; hence a subset of participants (i.e., the “sample”) is recruited from the population, which is smaller in numerical size but represents the population from which it is drawn. In this sense, the sample size simply refers to the number of participants in a sample. It is vital that scholars define the sample size during the design phase of a study, so as to ensure that true inferences about a population can be made on the basis of data obtained from a sample. However, a common problem we have seen is that scholars do not pay sufficient attention to sample sizes, often including far too few participants in a study.

The calculation of an adequate sample size is a vital part of the research design process. For most studies on body image, the sample size will depend on a number of factors, including: (i) the acceptable level of statistical significance for concluding that there is an effect (which is conventionally set at 5%; i.e., $p = .05$); (ii) the power of a study, or the probability of failing to detect an effect when there is an effect (i.e., a Type II error); power is usually set at 80%, though it is occasionally set at 90% in large studies; (iii) the expected effect size, which is based on previously reported studies (note that larger samples are required if previous studies have reported small or null effects), and; (iv) population characteristics, where smaller samples are required if a sample is homogeneous (conversely, a larger sample would be required for heterogeneous populations). There are various free statistical software packages that will assist in the calculation of an appropriate sample size, such as G*Power (Faul *et al.*, 2007; 2009).

The key point, which we wish to stress, is that researchers should calculate an appropriate sample size prior to beginning recruitment of participants. In far too many cases, researchers rely on small sample sizes that seriously compromise the usefulness of their research, even if they present interesting research questions. Of course, sample size requirements will need to be balanced with practical issues, such as time, cost, and how many participants are actually available in a given population. Nevertheless, these practical issues should not dictate the sample size – there is little use in conducting a study that is too small. In addition, it is important to consider non-response or withdrawal. In most studies, there is likely to be a certain amount data lost from the original sample (e.g., due to non-response, participant withdrawal, or missing data) and you should make appropriate allowances for this when determining the sample size (guided by experience or a pilot study).

Finally, and as highlighted above, it is important to pay careful attention to population characteristics when designing studies, as this can have an impact on sample size calculations. One common tendency we have seen in research by body image scholars is the pooling of data across social identity groups. Most commonly, this is done for practical reasons (e.g., insufficient attention had been paid to sample size requirements, resulting in small heterogeneous samples where the data needs to be pooled to meet basic statistical requirements); other times, researchers pool data because they assume within-population homogeneity (e.g., when data is pooled across sex or ethnicity). In the context of Southeast Asia, for example, we frequently see publications that pay inadequate consideration to ethnic differences in body image, despite clear evidence of variation across ethnic groups (e.g., Mellor *et al.*, 2009; Swami & Chamorro-Premuzic, 2008; Swami, Tovée & Harris, 2013; Swami & Jaafar, 2012). Careful consideration of theory and the population of interest should help you avoid such data-handling errors. This is not to say that data across social identity groups should never be pooled; rather, recruiting sufficiently large sample sizes

based on *a priori* calculations will enable you to conduct preliminary analyses that can guide data-pooling decisions.

4. Considering measurement issues

A final aspect that should be given serious consideration when planning a study on body image relates to the measurement of the variables of interest (i.e., assigning scores to participants so that they represent some characteristic of the participants). In our experience, body image scholars often do not pay sufficient attention to measurement issues during the planning phase of their research, resulting in data that lacks interestingness. These issues include: (i) improperly labelling a dimension of body image and, as a result, using a measure of body that is inappropriate; (ii) relying on single-item measures of body image; (iii) using measures of body image that lack evidence of validity and/or reliability (including poorly conducted adaptations or translations of existing measures), and; (iv) a lack of consideration of issues of validity and reliability in the researcher's own data.

In terms of improper labelling discussed above, above, a common error made by body image scholars is the improper identification and labelling of a dimension of body image that they wish to investigate and, as a result, the use of improper measurement tools. For example, we have on occasion seen scholars conflating different definitions of body image (e.g., negative versus positive body image) and, for example, using a measure of positive body image when they in fact wished to assess an aspect of negative body image. In some cases, researchers have not in fact measured body image at all because they have relied on measures that assess constructs related to body image (e.g., internalisation of media messages about appearance). There may be a number of reasons why this error is frequently encountered, including a poor understanding of the relevant theory and the multitude of measurement tools that are available to tap constructs related to body image. Thompson (2004) has provided in-depth guidance for avoiding pitfalls associated with selecting appropriate measurement tools, and we strongly recommend scholars consult his advice when planning studies on body image.

When selecting appropriate measures for use in a study, researchers should always strive to use scales that have demonstrable evidence of reliability and validity. One issue we have noted is the reliance on novel (and often single-item) measures of body image that have been designed and developed by the researchers themselves. Although it may sometimes be necessary to develop novel measures of body image (e.g., when a construct has not been previously identified in the literature or when existing measures are deemed to be unsuitable for a local context), far too often researchers use novel measures without first presenting any evidence that such measures are reliable and valid. That is, they assume that their measures "work", but fail to demonstrate that their measures "work". This is extremely important because it severely limits the interestingness of a piece of research and compromises the quality of the data that is generated.

In the majority of cases, researchers seeking to measure some aspect of body image can rely on measures that have been previously developed. The starting point for any piece of research is to first identify the construct you wish to measure, identify appropriate scales that measure that construct, and finally determine if any of the relevant scales have been translated and validated for use in the cultural or linguistic group that you wish to study. In the Malaysian context, for example, Swami (2017b) has provided a list of body image scales that have been translated into Bahasa Malaysia (Malay) and validated for use in Malay-speaking populations. One important caveat here is that, in selecting body image measures that have already been translated and validated for use in local populations, it is still vital that you assess reliability and (where possible) validity in your own datasets.

At a minimum, you should examine and report internal consistency coefficients for scores derived from your datasets. It may not always be feasible to conduct full tests of validity for existing measures, but including multiple measures of the same construct can help.

In many cases, scholars will identify a body image construct and find that a scale assessing that construct exists in the literature but has not been translated or validated for use in non-English speaking populations. Here, it is vital that scholars do not simply assume that, because a scale has demonstrable evidence of reliability and/or validity in one population, it will retain its validity and reliability in new populations (i.e., an assumption that validity and/or reliability is “fixed”). Instead, you should begin by translating the relevant measure into a language that the population of interest understands fluently (e.g., translating a scale that was originally developed in English into Malay for use with Malaysian populations). There are various approaches to scale translation (e.g., decentering and a committee approach), although the most commonly-used method is the back-translation technique (Brislin, 1970). Various rules for effective back-translation of measurement tools currently exist (e.g., Brislin, 1980, 1986; Hambleton, Merenda, & Spielberger, 2009) and we strongly recommend that researchers consult these prior to beginning the translation process. Following these rules will help ensure that scholars produce effective translations that retain the meaning of the original measures.

However, translating a scale for use in a local population is not the end of the process; in far too many cases, scholars effectively translate a scale but then fail to take the next vital step, which is to assess the measure’s validity and reliability in the population of interest. In particular, we frequently see cases where scholars neglect to examine the factorial validity of scores derived from translated scales (i.e., the extent to which the underlying putative structure of a scale is recoverable in a set of test scores). More specifically, researchers often assume that the factor structure derived in one population will be valid in a new cultural or linguistic population. However, this assumption may be faulty, as Swami (2017b) makes clear in the context of Malaysia, for example, factor structures for body image scales developed with English-speaking populations sometimes do not retain their parent factor structure following translation. This makes it extremely important to examine the factor structure of scores derived from newly-translated scales.

Beyond factorial validity, researchers should also seek to examine other indices of validity, such as convergent validity (i.e., the extent to which scores on a measure are correlated with scores on other measures of the same construct), criterion validity (i.e., the extent to which participants’ scores on a measure are correlated with other variables that one would expect them to be correlated with) and discriminant validity (i.e., the extent to which scores on a measure are not correlated with scores on measures that are conceptually distinct). Likewise, it is also important that researchers assess indices of reliability, including internal consistency (i.e., the consistency of participants’ responses across the items on a multi-item measure) and test-retest reliability (i.e., the extent to which participants’ scores on a measure are consistent across time). The extent to which establishing full evidence of validity and reliability is possible will depend on multiple factors, including time, access to sufficiently large sample sizes, and funding, so it is vital that these issues are given due consideration during the planning phase of a project.

Sometimes, a researcher may identify a pre-existing body image scale, but decide that it needs to be adapted (e.g., certain phrasing may prove difficult to translate or certain items may not be suitable for use in a local context). In such cases, researchers should make every effort to request permission from the scale developers before making adaptations,

and then follow the guidelines given above. Alternatively, you may sometimes identify a body image construct that has not been previously delineated in the available literature and may, therefore, elect to construct a novel scale. In doing so, we strongly recommend that you pay careful attention to core aspects of scale construction (see Spector, 1992). This includes clearly identifying the purpose of the novel scale, an elaboration of the methods involved in item generation leading to item banks, a description of methods used to generate items and select anchors, a description of the refinement of the item structure, and finally collecting and reporting evidence of the reliability and validity of the scales (as described above). Swami (2017b) presents some other criteria to consider when constructing novel body image scales for use in new linguistic contexts.

Conclusion

We emphasise strongly enough the importance of planning when it comes to body image (or, in fact, any) research. A lack of planning can seriously hamper research efforts and results in the generation of poor quality data that will have low interestingness for the wider research community. Conversely, paying careful attention to the generation of interesting research questions, embedding theory in all aspects of the project, being mindful of sampling issues, and taking steps to ensure that measures used are valid and reliable will result in better quality research on body image. In our view, research on body image in developing countries has come a long way in the past several decades, but in too many cases this research continues to be built on poor foundations. It is our hope that the recommendations we have made above will help researchers think more carefully about the research process and lead to a body of research that can make real contributions to knowledge.

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