

# Social comparison: causes and effects

Wenhan Bai<sup>1,\*</sup>

<sup>1</sup>Shanghai Hongrun Boyuan School, Shanghai, 200000, China

**Abstract.** Social comparison is a vague concept that is controversial from its basic definition to its further application as the original language from Festinger 1954 is too vague and unscientific. There are few articles responsible for clarifying the basic role of social comparison. Therefore, this article aims to clarify the effects and reasons for social comparison on the base of a socially acceptable definition of social comparison. The article will review several scientific research in specific aspects, and then try to string them together and form a general solution. The study demonstrates that the desire for self-realization or self-improvement will motivate social comparison, and these two motivations will function differently according to different directions of social comparison. In addition, motivations will contribute to the various effects of social comparison, and there is a negative correlation between social comparison orientation or upward social comparison and self-realization in the SNSs field. Both systematical reviewing and further suggestions are discussed in this article.

## 1 Introduction

As a common strategy in our daily lives, few people really understand the concept of social comparison and the same for some research or studies. Wood et al., propose several major features of social comparison that are highly acceptable, but they leave so many ambiguous details and result in a consistent argument about the definition of social comparison [1]. Though the definition of social comparison is still vague, scholars successfully propose a series of related concepts according to an abstract implication, as Lee et al. introduce a measure for social comparison orientation [2]. Scientists keep working on the applications of social comparison, and quite a few studies demonstrate that social comparison is penetrating every aspect of daily life. Some of these studies (e.g. Hu 2021) even show that social comparison can relate to mental health [3]. All the evidence supports that social comparison can lead to tremendous change in daily life. However, returning to social comparison itself, few articles discuss the characteristics of social comparison on the basis of a clear definition of social comparison, instead of a reference to the ambiguous words of the original social comparison theory without a convincing explanation. Thus, this article aims to explore the cause and effect of social comparison with a clear definition of social comparison. Specifically, the article will discuss the effects of social comparison in the SNSs field and two different motivations for social comparison. These studies are all detailed and applicable in daily life.

## 2 Concept of social comparison

Since the definition of social comparison is still a complex argument in psychology, this article will first clarify a

convincible definition of social comparison by several major features. According to Wood et al., social comparison refers to a process of finding similarities or differences via relevant social information [1]. Specifically, finding similarities or differences indicates comparison, and the acquisition of relevant social information makes a simple comparison become a social comparison. This article proposes that a comparison does not regard the effect it derives, but focuses on the comparing process itself [1]. Thus a comparison can be meaningless or purposeless. For instance, if people are having a delicious dish, and suddenly a classic dish that has a similar flavor pops into peopler mind. When it pops into peopler mind, people may not mean to have any particular results by a comparing process, but people may still think about the answer for which one is more flavorful, which one is fluffier, or people just simply realize that these delicious dishes have similar taste and then nothing else. Thus people can conduct a comparison without meaning it at first, and people cannot deny it if the result of this comparison is meaningless and has no impact on themselves. Another example is that children have the ability to conduct a comparison but often ignore the impact, or they even do not have the ability to dig out the complex information behind the comparing process itself [1]. When doing the experiment, one essential feature to help us determine it is the reaction, which means people must have a result after the comparing process, but the effect of this result is unimportant and can be blank. Then, relevant social information means any social information that has a relation with the targets themselves. It will relate to an argument about the importance of the validity of this information. This article believes the validity of this information has nothing to do with the comparison since it only affects the effects of the comparison and will not impact the comparing process [1]. In fact, there is no way to ensure that the social information people get is

\* Corresponding author: shenyalin@shbs.org.cn

certainly true [1]. The misperception of information is a common phenomenon in our daily lives, and misconstruction may also contribute to the doubtful validity of the information [1]. Since that, people can't find a clear borderline between comparison with actual information and comparison with imagined information. Moreover, we already make sure that social comparison can be effective under imagined information (e.g. Vogel et al.) [4]. This proposal broadens the range of social comparison and that invalid many restrictions on social information in the experiment. A valid and reliable experiment should test whether the participants acquire the relevant social information successfully and use this social information in the comparing process.

### 3 Impact of Social comparison

After all these clarifications about the definition of social comparison, now people enter the core argument about the

effect of social comparison. Lee et al. conducted an experiment about the relationship between psychological well-being and the orientation of social comparison by online questionnaire [2]. In this study, the orientation of social comparison refers to the total probability of conducting either an upward comparison or a downward comparison, which means comparing upward targets and downward targets respectively [2]. In this study, the researcher focuses on social networking sites (SNSs), which gradually become a stable and convenient way for people to get exposure from the outside world [2]. The experiment is generally valid and reliable. The questionnaire points to social comparison directly and fulfills all the common features of social comparison, and most of the variables are controlled [2]. The result shows that social comparison orientation seems to have a negative effect on psychological well-being with the mediating effect of self-esteem and social support [2]. Table 1 shows the data from this experiment [2].

**Table 1.** Result of test in Lee et al. (N=235) [2]

Path	B	SE	C.R.	$\beta$
<b>Direct effect (a)</b>	-11	.04	-2.89	-.16
<b>b1</b>	-.10	.05	-2.00	-.16
<b>b2</b>	-.23	.05	-4.88	-.35
<b>c1</b>	.25	.08	3.25	.25
<b>c2</b>	.02	.06	.42	.02
<b>d1</b>	.88	.09	9.45	.84
<b>Indirect effects</b>	<b>Bootstrapping Estimate</b>	<b>SE</b>	<b>BC 95% CI lower</b>	<b>Upper</b>
<b>b1c2</b>	-.01	.01	-.02	.01
<b>b2d1</b>	-.20	.05	-.30	-.12
<b>b1c1d1</b>	-.02	.01	-.06	-.01

Model Fit:  $\chi^2$  /df=2.10, p<.000; IFI=.90; TLI=.90; CFI=.90; RMSEA=.06

Notes: \* - p < .05. \*\* - p < .01. \*\*\*p < .001. B = unstandardized path coefficient; SE = standard error;  $\beta$  = standardized path coefficient; BC = bias corrected; CI = confidence interval; a = direct effect of social comparison orientation on psychological well-being; b1 = effect of social comparison orientation on perceived social support; b2 = effect of social comparison orientation on self-esteem; c1 = effect of perceived social support on self-esteem; c2 = effect of perceived social support on psychological well-being; d1 = effect of self-esteem on psychological well-being.

The restriction for this experiment is generality. First, it is restricted to the field of SNSs, and most of the participants are in their 20s, or even smaller [2]. Though we

can't ignore the increased importance of SNSs in our lives, especially after the online-office era, the result still cannot apply to all. Second, the form of an online questionnaire

seems to rely heavily on the honesty of the participants. If the answer to a question is too negative to show in public, participants may still try to hide this answer and propose a more positive, more acceptable one through their computer [1].

Noticeably, psychological well-being often relates to the privacy of one's own and the same for social support and self-esteem. Though this experiment has so many drawbacks, the conclusion is still valuable, and many other experiments support this conclusion too. Vogel et al. also use an experimental approach to show that exposure to SNSs has a negative correlation with self-esteem [4]. Further study concludes that upward comparison is responsible for this negative correlation, which specified social comparison orientation into upward social comparison orientation. Instead of an online questionnaire, this study uses a face-to-face survey in the lab, which seems to be more reliable than the last one [4]. Moreover, this study specified SNSs on Facebook, which is one of the most common social media in our daily lives [4].

Another study is shown by Warrender et al [5]. This study concentrates on the relationship between mental health and social media, and it finds out that social comparison is one factor among the multi-aspects that can affect our mental health, self-esteem, and other important personal characteristics [5]. Until now, all three experiments show that upward comparison forms a negative correlation with mental health, but all of these experiments are conducted in the SNS area. With time flowing, maybe the conclusions of these experiments will be more applicable with the massive sprawl of SNSs, but there's evidence that these conclusions can't apply to other people at once. Taylor et al. show an experiment that explores the effects of social comparison on people under threat [6]. This experiment is targeted at people who are under threat, and it explores both the effects of upward evaluation and downward evaluation on these participants. Surprisingly, both upward social comparison and downward social comparison yield a positive consequence. What's more, Suls et al. seem to give a common explanation for this condition [7]. It mentions many experiments that show a good impact on participants after conducting an upward comparison and proposes many possible reasons [7]. An acceptable proposal is that these participants generally have high motivation to improve themselves. For instance, people under threat will have a strong motivation to stay alive. In that case, when compared to people who have weaker symptoms or are even cured after therapy, they will be more likely to find similarities between them, and they will believe these similarities prove they can be as good as the target. Back to the SNSs fields, this proposal will still make sense since vulnerable online people are gradually forming a stereotype, thus having a higher social acceptance for this answer. For the impacts derived from different motivations, the author will discuss them in more detail later.

Entering the cause of social comparison, this article will first introduce different categories of social comparison. According to Locke et al., people can sort the social comparison according to the various factors [8]. The most common factor is directions. Usually, the comparison goes in the vertical direction, people will get either an upward social comparison or a downward social comparison, which

this article has mentioned before [8]. However, the comparison can also be horizontal, and that will lead to connective social comparison (finding similarities) and contrastive social comparison (finding differences) [8]. The types of vertical social comparison depend on the relevant position of the comparing target, while the types of horizontal social comparison depend on the result of the comparing process. Locke et al. propose that the scope or focus point of social comparison is important enough to support a new classification, which is generalized social comparison or personalized social comparison [8]. Generally, all these classifications represent an essential factor that will affect the formation of the social comparison. The research on the cause and effects of any specific category of social comparison is actually trying to figure out the impact of the factor that is represented by this category. Basically, these research are the same thing. These factors are too separated and specific, therefore this article will depict a more general pattern of social comparison and try to detail a relationship with the directional factors that the article mentioned above.

Motivation is a great start in discussing the cause of social comparison. According to Festinger's theory (Festinger 1954), there is an instinct for humans to make comparisons in order to figure out one's ability and opinion [9]. "Ability" and "Opinion" can be seen as two bases of social comparison, and it can be illustrated in self-evaluation, self-concept, and self-esteem. Generally, it relates to the answer to "Who are people". Thus, the common motivation of social comparison is to figure out themselves. Most commonly, it will refer to a self-realization in the society. Another motivation is to improve themselves, which means conducting a social comparison for self-improvement. Some scholars think these two motivations should be similar, or even describe them as the same type of social comparison since improvement is the next step for realization. Nonetheless, this article proposes that there is a huge difference between the two motivations, though not in a totally opposite perspective. First, a social comparison that aims for self-realization will be more likely to be a contrastive social comparison. "Who are people" is a typical question for college applications, and most people will answer this question by their unique characteristics. People are always eager to prove that they are different. For example, some people will lie "They want to be normal" to show that they have different perspectives from others. Thus, finding differences is an essential way to figure out themselves, and it will result in a higher existence of contrastive comparison. The result of lower esteem of participants after upward social comparison may be hugely impacted by focusing on differences with higher life standards, and there is no supportive data to show that connective upward social comparison will have the same effect. On the other hand, scientists already have an example to show that connective upward social comparison can have a positive effect on people [6]. And that goes on the second proposal, which states that a social comparison that aims for self-improvement is more likely to have a positive impact. The process of self-realization has a high tendency to bring some negative emotions into themselves, and the positive feedback is sometimes recessive, thus difficult to perceive. Unlike self-realization, self-improvement is more likely to

give out positive feedback throughout the whole process. With more positive feedback, this motivation will possibly last longer, and the effect that derives from this reaction will be more likely to be positive too. All these discussions of motivations are related to various factors, and there's no way to construct an accurate scale for measuring these complex motivations. Thus, researchers put their attention on the product of social comparison according to different motivation, which is generally abilities and opinions. Gibbons et al. propose a scale for measuring the social comparison orientation based on one's abilities and opinions, named Iowa-Netherlands Comparison Orientation Measure (INCOM) [10]. Referenced by Gibbons et al., social comparison orientation refers to the different standards of tendency for people to conduct a social comparison. Since there is no scale that can measure the social comparison orientation used to occur, this new measure proves its' validity through various ways, the representative one is to prove the close relationship between itself and the two bases (abilities and opinions) of social comparison. The INCOM is a great momentum to quantify social comparison, and the understanding of social comparison orientation is inspiring. Lee et al. also referenced Gibbons et al., and it really helps the researchers to construct the basic structure of the experiments [2].

In conclusion, the cause of social comparison should be a natural instinct [9]. And the motivations that can trigger this instinct should be the desire for self-realization or self-improvement. Though motivations for self-realization are more common in our daily life and is applied to most of the experiment, motivations for self-improvement should be a separate category of motivation. Depending on the difference in motivation, there will be a difference in the compositions of social comparison and the impact of the social comparison. Since motivation can be unaware and unconscious, sometimes social comparisons can be seen as purposeless [1]. Moreover, the result of the social comparison can be meaningless, which means it can have no essential effect on one's own [1]. If social comparison really has an effect, it will vary depending on different conditions. Specifically, in the SNSs field, the frequency of upward social comparison constructs a negative correlation with self-esteem under motivation for self-evaluation. Nevertheless, there are also experiments to show that motivation for self-improvement can reverse this correlation. As mentioned before, most of these experiments are conducted by self-report method, which is highly doubtful. In addition, since there are various illustrations of the original ambiguous language from Festinger 1954, these experiments have many differences in understanding the definition of social comparison, resulting in a lack of control of experimental variables in other scholars' views. But these experiments at least check the major features of social comparison to ensure validity, which means every experiment ensures the participants have relevant social information and use them in the comparing process, finally yielding a reaction. Despite these major features, each experiment should offer a clear definition of social comparison rather than simply referencing the ambiguous words from Festinger 1954. Future studies should focus on social comparison orientation, a topic that is highly related to the cause of social comparison but has a much clearer

definition for itself. Though Gibbons et al. prove the reliability and validity of INCOM, a larger supportive database or a new valid reliable social comparison orientation scale that is constructed by other scientific methods will still be helpful, since it stands in a brand-new field [10].

## 4 Conclusion

Through a review of the research, the author proposes that in the SNSs field, people with a higher possibility to conduct a social comparison, especially an upward social comparison, will likely have a lower measure of psychological well-being or self-esteem. Thus, this article concludes that both social comparison orientation and upward social comparison correlate negatively to concepts that are related to self-realization. The reasons for this conclusion are complicated since most of the research is developed through questionnaires, which makes it difficult to control variables or eliminate alternative variables. One possible reason is the motivation, which is discussed a lot in this article. As a result, this paper proposes that less exposure to SNSs may help improve self-esteem and psychological well-being for the youth. However, the result is still limiting in the SNSs field, especially for the youth. Further study should focus on other research methods that either can easily control experimental variables or specify other aspects. In the reasoning part, the article proposes that the effects of social comparison will change with different motivations. Instead of classifying self-realization and self-improvement together, this article proves that social comparison for self-improvement has a huge difference from social comparison for self-realization through the 2 examples of directional factors in social comparison. The cause of this phenomenon is highly related to how people react toward these motivations, which can result in a tremendous change in all aspects of a person. Since everyone has their unique perspectives on how motivation impacts their daily life, this article fails to conclude with a general reason to explain this difference. Further study on exploring this area will be highly appreciated. Nevertheless, this statement still needs more evidence. For instance, a review of the difference between the two motivations in other essential factors of social comparison will make this statement more convincing.

## References

1. J.V.Wood.Pers Soc Psychol B.22(5),520-537,(1996)
2. J.K.Lee.Curr Psychol.41(9),6247-6259,(2020)
3. Y.Hu.M.Zhou.Y.Shao.J.Wei.Z.Li.S.Xu.P.Maguire.D.W ang.BMC Psychiatry.21(3),(2021)
4. E.A.Vogel.J.P.Rose.L.R.Roberts.K.Eckles.Psychol Pop Media Cu.3(4),206-222,(2014)
5. D.Warrender.R.Milne.Nurs Times.116(3),58-61,(2020)
6. S.E.Taylor.M.Lobel.Psychol Rev.96(4),569-575,(1989)
7. J.Suls.R.Martin.L.Wheeler.Curr Dir Psychol Sci.11(5),159-163,(2002)
8. K.D.Locke.Pers Soc Psychol B.33(2),213-225,(2007)
9. L.Festinger.Hum Relat.7(2),117-140, (1954)

10. A.P.Buunk.F.X.Gibbons.P.Dijkstra.Z.Krizan.J Pers Soc Psychol.76(1),129-142,(1999). Mecke, I. Lee, J.R. Baker jr., M.M. Banaszak Holl, B.G. Orr, Eur. Phys. J. E **14**, 7 (2004)